HUMANISM IN A TECHNOLOGICAL AGE

COMMUNICATION ARTS / STUDIES

1965-1985

Loyola College
Concordia University
Montreal

HUMANISM IN A TECHNOLOGICAL AGE

20 Years of Communication Studies

at Concordia University

1965 - 1985

edited by: Marla S. Lowenthal
William O. Gilsdorf

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IN CELEBRATION

This monograph, Humanism in a Technological Age, is in celebration of the 20th anniversary of the founding of the Department of Communication Studies in the 1964-1965 academic year. In the beginning, the department was little more than a vision in Dr. John O'Brien's imagination. Yet through his tireless efforts, he was able to found a department at Concordia that was to be a pioneering venture in Canadian communications' pedagogy - offering not only a critical understanding of the role and nature of media, but hands-on experience in media production as well.

In time, the department steadily grew from three faculty and a technical supervisor to service one undergraduate major to seventeen full-time faculty, ten part-time faculty, and ten non-academic staff to service four undergraduate options, a post B.A. Diploma program, and a Masters program in Media Studies. By the beginning of the 1987 academic year, the department hopes to offer a Ph.D. in Communication under an innovative joint project with the Université de Québec à Montréal and the Université de Montréal. Nourished by the active bi-lingual and bi-cultural research in and teaching of communications that these universities together offer, this doctoral program promises to be the most challenging and exciting in all of Canada.

Yet while the program has changed over the past twenty years, its commitment to humanism and to excellence in teaching and research has not. This commitment has guided the program in its development in the past and will continue to light its way in the future.

Since the department's inception, its theoretical base has been rooted in the liberal arts, more especially the humanities, though we draw from a variety of disciplines, including several from the social sciences. This broad ranged theoretical and methodological design allows for great flexibility, taking into consideration the wide scope of human perceptions. The department prides itself on its humanistic approach - in its emphasis on helping students develop their creative and critical potentials and in its focus on understanding the entirety of the mediated communications act.

Our overriding person-based goal is that the student always be considered first as an individual. Though it is not possible to oblige all requests, the department recognizes individual differences and tries within the best of its ability and resources to work with students to help them grow in the

directions they have chosen for themselves, to help them develop their talents and critical thinking and to help instill within them a sense of ethics and an understanding of human values, behavior, and consciousness. Humanism is, therefore, an underlying current that runs throughout the program from teacher/student interaction to theoretical and production practices.

Apart from being manifest in the interpersonal interaction between staff and students, humanism is ingrained in the program's curriculum which offers courses that are both critical and practical. Starting with the works of such renowned Canadian communications scholars as Harold Innis, Marshall McLuhan, and Barrington Nevitt, which trace the development and influence of communication technologies from their pre-alphabetic roots to their future possibilities, the department offers a wide spectrum of philosophical and critical approaches: cultural studies, organizational and political communications, media aesthetics, biocybernetics, telematics, rhetorical and discursive practices, both quantitative and qualititative research methodology - all of which center around humanistic premises whether they explore the perceptual effects of the technology and its uses, the personal and socio-political influence of various media, or the dynamics between media and culture. In production classes, students are encouraged to develop their critical understanding by addressing issues of aesthetics and perception. Such a complete review of communication theory and criticism affords a more extensive and more firmly grounded base upon which students may evolve their own insights and broaden their perspectives.

In addition to theory, the department offers a complete range of media laboratory courses, including classes in visual dynamics, computer graphics, television, film, sound, script-writing, information programming and biometrics. These courses provide hands-on experience with media technology and media production, helping students ameliorate their technical craftsmanship, their aesthetic sensibilities and, above all, their human and creative potential. Perhaps even more importantly, both faculty and students learn about themselves: how they work with others, what they like and don't like, what they excel in, and what aspect of media studies they wish to pursue further.

Humanism in this technological age needs nurturing, and the Department of Communication at Concordia is committed to doing what it can. Many things have changed since the department first opened its basement doors twenty years ago. There are more programs, more courses, more students, more faculty, more staff, and more equipment (though we can always use more equipment since it must be upgraded so often to keep up with the rapidly changing technology). Yet the department has never swerved from its initial emphasis on the human in its theoretical and production practices and in its interpersonal interactions with faculty, staff and students.

So in celebration of twenty years of progress, twenty years of communication research and pedagogical excellence, and twenty years of humanism, the Department of Communications at Concordia University is proud to present Humanism in a Technological Age.

Humanism in a Technological Age has grouped articles according to interrelated subjects/themes. The first two articles by Dr. J.E. O'Brien and Dr. M.F. Malik respectively present a brief history of the Communication Department and the Myer F. Pollack Biocybernetics Communication Research Laboratory at Concordia University.

The second section features articles influenced by Marshall McLuhan. Barrington Nevitt's Scienza Nuova speech presented at Concordia's Convocation in 1984 begins this section, followed by Dennis Murphy's "Barrington Nevitt: A Man of Comprehensive Understanding", Paul Theberge's "Counterpoint: Glen Gould and Marshall McLuhan" comes next, finishing off the section with Denis Diniacopoulos' "First Reflections".

Section three coalesces around the visual with a discussion of photography by John Buell in his "On the Threshold of Metaphysics: Do you Know this Photograph?"; a critique of television by Nikos Metallinos in his "Visual Space: Empirical Research in Television Z-Axis Staging"; a history of 3D film by James Babanikos in his "In Search of the More Real"; and an analysis of film criticism by Marc Gervais in his "Toward a Renewed Humanism in Film Studies".

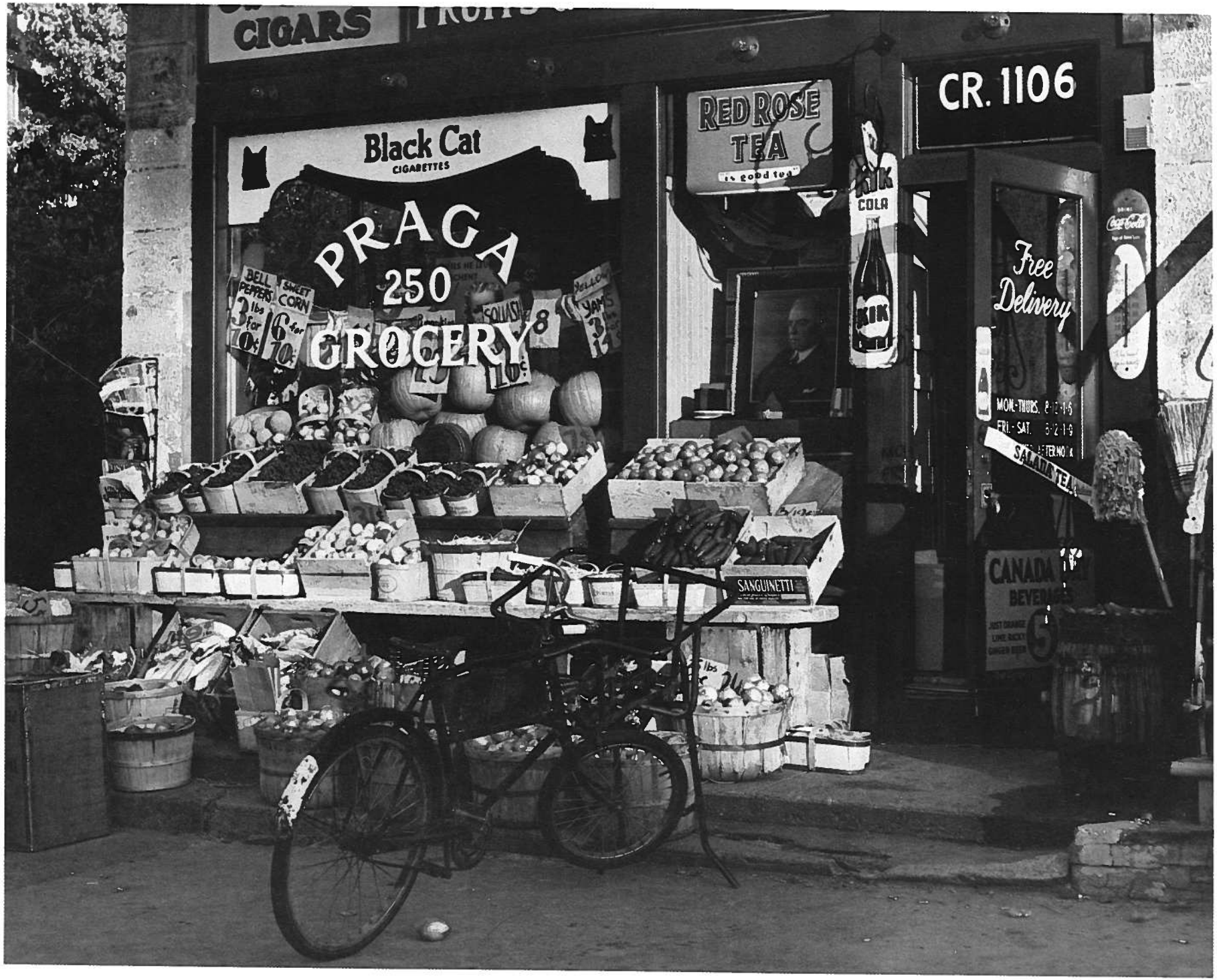
Section four looks at the impact of modern technology on the human, political, and social condition. Maurice Charland's "Computer Culture: Enlightenment and Power" and Martin Allor's "Repositioning the Computer Apparatus: Transcoding and Social Practice" explore the computer's relationship to culture; W. Lambert Gardiner's "Communicating with Computers: A Transporation-Transformation Trade-Off" suggests a new methodology for studying person-machine relationships; Gail Valaskakis' "Television and Cultural Integration: Native Communities in the Canadian North" discusses the influence of television on the Inuit; and Don Taddeo's "Television Broadcasting of the Proceedings in the Canadian House of Commons and the United States House of Representatives: A Comparative Overview" looks at the history of televising legislative debate.

Finally, section five concentrates on communication pedagogy. William O. Gilsdorf's article, "Critical Teaching in Basic Courses on the Study of Mass Communication" offers a fresh approach to teaching introductory communication, while M.F. Malik's "Remarks on Communication Media Pedagogy" looks at a number of assumptions and problems concerning the teaching of media studies and offers some suggestions for improvement.

In all, Humanism in a Technological Age is a tribute to those who began the department twenty years ago, to those who passed through its programs, to those here now and to those who will be here in the future. Special thanks to Lise Hamilton and Deborah MacFadden without whose help this would not have been possible.

Marla Lowenthal
April, 1986

ORIGINS



Photographed by Judith Cezar

COMMUNICATION STUDIES: THE EARLY YEARS

by John E. O'Brien

The announcement was on a mimeographed single page, distributed to students at the time of registration in September 1964. It read: Communications 201: Mass Communications and and Society. Full Course. Rev. J.E. O'Brien, S.J., Assistant Professor. There followed a five line description and the statement: "Course available to second year students as an alternative to the English requirement."

Six months before, in March, I had arrived at Loyola after completing my doctorate in Communication at the University of Southern California. Loyola was conducted by the Jesuits at that time and the President, Fr. P.G. Malone, expressed interest in exploring the idea of an academic program in Communication. Consequently I was invited to submit a curriculum proposal to the Academic Vice-President...and then another...and still another! I began to wonder whether there was any genuine interest in launching a new program. As the opening of the fall semester rapidly approached. Fr. Gerald MacGuigan, Chairman of the English Department, proposed that one course in Communications could be offered as an elective. His offer was accepted with alacrity. Expectations concerning enrollment were in the order of 10-12 students. Yet, with no advance notice, approximately 75 students registered for the course and a new department began to be discussed as a real possibility.

A second event which moved the project forward was a film festival entitled "The Best of the NFB." Each evening for five successive nights in February, a different genre of short films produced by the National Film Board of Canada was screened, with directors and producers from the Film Board as guest lecturers. The Smith Auditorium was filled each evening. In fact, the event generated so much interest on campus that I was invited to submit a proposal to the Senate for its March meeting.

Three questions concerned the Senate: (1) the proposed curriculum, (2) the human resources required in terms of future faculty members and staff, and (3) the material resources required to support a new program. The answer to the first question was that the curriculum would be developed around a strong humanities and liberal arts core with a social science component and a creative emphasis in studio/laboratory work. In terms of faculty, an effort would be made to hire Canadians. The Jesuits had already assigned me to Loyola and another Jesuit, Fr. Marc Gervais, with a specialization in film criticism, would be assigned within several years. Moreover, Dr. John Buell in the English Department (who would transfer to the Department the following year) was agreeable to cross listing several of his courses and other professors would be invited to do the same. The third question was the difficult one because there were no plans afoot to acquire space or laboratory/studio facilities and

electronic equipment. I proposed that the new Department would rent studios in Montreal if Loyola was not able to provide them on campus.

The Senate approved the proposal and the new Department came into existence in the summer of 1965. Six courses were offered: three cross-listed with the English Department, one with Music, and the remaining two, Introduction to Mass Communication and The Art and Science of Communication as the specific offerings of the Department. Course offerings in Cinema, Drama, Radio and Television were promised "over the next years."

Thus Loyola became the first institution of higher learning in Canada to establish a Department of Communication Ats. A number of elements converged to make this possible, among them the freedom of Loyola through the Decree Iam Dudum to decide its curriculum development in the Faculty of Arts even though affiliated with the University of Montreal, the interest of the Church in the new world of popular culture as manifested in the Decree on the Instruments of Social Communication of Vatican II in 1963, the recognition by the Jesuit Order that "these media can no longer be looked on as something directed primarily to the relaxation of the spirit, but rather as the means of expression and mass communication in today's state of men and affairs, one which can to some extent be called a 'culture of the image'", and finally the very positive response of students to the stated objectives of the new Department:

> "The Department bases its work in communication theory, cinema, radio and television on a solid foundation in the liberal arts. The curriculum is intended to develop in students a scholarly and creative approach to mass media. It is designed -
> a. for students who intend to continue graduate studies in communication;
> b. for students who intend to make a career in the public arts as writers, critics, directors, and performers;
> c. for students who wish to enter the teaching profession as specialists in cinema and television;
> d. for students who intend to enter the media industries, the media professions, and the public arts in the areas of publicity, promotion, advertising, and public relations."

Almost from its inception, the Department began to receive enquiries not only from undergraduates but also from graduate students who were registered for a Master's degree in various disciplines, a few even having completed all course work for a doctorate. The Department responded in the fall of 1967 by creating a Post B.A. Diploma Program consisting of 42 credits which could be taken in one full year, including a summer session. Unsuspected at the time, this program provided a foot in the door to graduate studies when Loyola and Sir George Williams were combined in 1974 to create Concordia University.

In terms of studios and equipment, one small "sound" studio was operating as the Department began its second year of existence. Ross Dolinsky, technical supervisor of the language labs on campus, had volunteered his expertise to make the studio operational. As the weeks went by he became interested in the new Department. I invited Ross and Don Clark, a part-time professor, to constitute a Task Force with me to prepare a five year plan for space and equipment needs with proposed capital and operating budget for the entire five year span. The Task Force scouted the campus for space possibilities, had estimates prepared for "temporary buildings" and for professional radio and television studios, prepared preliminary blueprints, and as a back-up measure provided rental costs for radio and television studios in Montreal. I then presented the dossier to the Administrative Vice-President who was much taken with the approach. The Administration reacted positively and within a very short time I was informed that an "instant building" would be constructed on the West Broadway side of the campus, to be in operation for the fall of that year. The following six months were hectic in every way but also very rewarding as the "dream" began to take physical shape.

Two new faculty members who had been prominent in EXPO '67 (Montreal's World Exposition) generated a good deal of interest in the Department on the part of the media. Charles Gagnon, the Canadian artist and film maker who had created the program for the Christian Pavilion at EXPO and the remarkable film "The Eighth Day," had accepted an invitation to become Artist-in-Residence and Special Lecturer in Film while Dr. Miroslav Malik, who had been Executive Director for the outstanding Czech Pavilion had joined the Department as a Visiting Professor. Each brought his particular gifts so that a new emphasis on research began to develop almost immediately. That same year Gail Valaskakis was hired as a lecturer and three cross appointments were made - H.W. Ladd (Psychology), T. McPhail (Sociology), and L. Snider (Sociology) with J. Hofbeck (Theological Studies) following a short time later. By this time Fr. Gervais was offering two History of Cinema courses, one on "The Silent Cinema" and the other on "The Talkies Until 1945."

The Director of the Evening Division had earlier approached me concerning the possibility of offering some departmental courses in his division. As the costs of film rental were prohibitive for the Department, I suggested that we could offer the two courses in the evening both for day and evening students, with screenings on Wednesday evenings and a lecture on Thursday, if he could meet the rental fees. This was arranged to the benefit of the whole campus and of moviegoers, particularly in the West End, who had the opportunity to see a wide selection of excellent films at a minimal cost if they were not registered in the courses.

With the opening of the Fall semester in 1969, Loyola found itself in a good deal of turmoil. The non-renewal of a professor's contract in the Physics Department triggered a series of demonstrations and confrontations between what became opposing factions among the faculty, the students, and the Administration. As the Acting Academic Vice-President that year, I was described often enough as the "lightning rod" for Senior Administration! Be that as it may, fortunately for me I was able to return to the Department each week to lecture and to look forward to a permanent return by the end of the academic year.

An eight week Institute in Communication Arts in Europe had been on the drawing boards for more than a year and thanks to the interest and generosity of Myer F. Pollock, it became a reality in the summer of 1970. Begninning on June 16 with Dr. Malik as program director, Patricia Paris as secretary, Fr. Clair Fischer, a newly arrived member of the faculty and myself as director, the Institute travelled through Europe for two months with 17 students from the Department as participants.

The program consisted of the following elements:

a) Lectures at Universities or specialised schools in Film, Design, Art history and Art Aesthetics.
b) Laboratory sessions in Museums, Galleries, film and TV studios.
c) Discussion periods and seminars with major directors and producers of film and television programs as well as with professors and students from European Art schools.

90 hours of lectures were scheduled, with another 90 hours of directed lab. work in museums, galleries, etc. 43 professors from Britain, France, Germany and Italy were guest lecturers in the Institute.

The Institute was one of the intellectually stimulating events of those first years. Plans for offering it on a regular basis were later shelved due to the fact that most Canadian students were required to work during the summers in order to pay their way at University the following year.

The introduction of the Collegial Program in the Anglophone sector of Quebec in 1969 necessitated a restructuring of the undergraduate programs at the universities. The Department used this opportunity to examine its objectives and curriculum offerings in detail. A strengthened program was phased in over a three year period. The General Calendar for 1974-1975 (which was to be the first year of operation of the new University) described the Department objectives as follows:

> "The purpose of the overall programme is to allow the student to develop his/her creative, critical, and intellectual potential in the context of our media-oriented society. Related studies in the humanities, sciences, and social sciences are an integral part of the programme.
>
> Intellectually and critically, both in seminar rooms and laboratories, the primary concern is to investigate 'media man' and 'media world', to understand more fully the role of media in society, to examine critically the goals of society as projected in media, and to assess realistically the responsibilities of media vis-à-vis that society. To this end, students are encouraged to develop a personal artistic and ethical statement on the quality of life and goals of society.
>
> Integrated with this, the student's creative work starts with acquiring skills in the basic technology of the media, and understanding these media as communicational modes. This is followed and enlarged by a concentration on the rhetorical and artistic dynamics of media (be it film, television, radio-sound, photo, etc.) and on the content of a work created in a particular medium."

Year I had been completely revised, consisting now of four half courses and one full course in the Department, viz. History of Communication Media (Malik/Gecsei), Communication Analysis (Malik/Gecsei), Dynamics of Visual Representation (Diniacopoulos), Introduction to Audio-Visual Media Technology (Mirabelli/Tierney), and The Cinematic and Electronic Image (Fisher/Murphy/Valaskakis).

Years II and III were now structured in such a way that students were required to take two full courses in the "Culture" series, two full courses in the "Style, Form and Content" series, and at least one full course in the "Production" series. New courses, in addition to those offered in Year I, included Psychology of Communication (Gilsdorf), Inter-Cultural Communication (Valaskakis), Feature Television (O'Brien), Documentary Film and Television Genres (Malik), Broadcasting Policy in Canada (Mirabelli), Media and Community Development (Valaskakis), Organizational and Political Communication (Gilsdorf), Advanced Scriptwriting (Buell/Tierney), Seminar in Propaganda (Murphy). From two survey courses, Explorations in Cinema had blossomed into nine genre courses, each featuring an in-depth study of specific artists or schools and offered over a three year cycle. Other new courses were Seminar in Media Forecast (Murphy), Communication Programming (Malik), Computer Communication Programming (Cerney) and an Honors Project in Research, Film, Television, Sound or Multi-media.

Faculty members now numbered 13, the majority having already completed their doctorate. Dr. Don Taddeo Jr. was Administrative Assistant to the Chairman. Technical staff had increased to five.

New facilities and equipment included portable TV cameras, several 16mm professional units, complete super-8mm sound/film units, a holographic and laser laboratory and a small research studio for measuring audio and visual information loads.

As the number of students applying to the Department continued to outnumber by far the places available, admission procedures included submission of a strong academic record, of critical and creative work, and of a comprehensive letter of intention expressing why the applicant wished to major in Communication Arts. A 30-minute interview by a Departmental Committee completed the requirements.

In 1975-76 the Department announced a new Specialization (60 credits in a total of 90 for the degree) in addition to the Major. A formal request to change the name from 'Communication Arts' to 'Communication Studies' was forwarded to the Curriculum Committee on the grounds that the new name reflected more accurately the program of studies that was being offered. The Diploma Program was now listed in the Graduate Calendar of the University and continued to attract very good students even though Master's Programs in Communication were becoming available. When or even whether the Department would be permitted to establish its own Master's program was problematic. In a decision considered highly political, l'Université de Montréal and McGill had been given approval for a graduate

program while all remaining proposals were frozen. This left Laval, Université de Québec à Montréal and Concordia University wondering about future developments. Subsequently a proposal for a Master's program by the Université de Québec à Montréal was rejected; the University appealed and the decision was reversed. This action ended the freeze and the Department could once again begin to look forward to its own Master's program.

After three terms as Chairman and some 12 years later, I had stepped down in the spring of 1977 to be succeeded by Dr. Joan Tierney. Under her direction the Department became actively involved in the Ph.D. in Humanities, a University-wide degree not under the direction of any single Department. Within the year Dr. Tierney resigned, to be succeeded by Fr. Clair Fischer, first as acting chairman and then as Chairman for a regular term. Initially he saw his role as one of consolidation. But no sooner was he appointed than administration officers in the new University began proposing new growth and development and rationalization of structures. In a letter to the Dean shortly after taking office, Fischer tackled a problem which had been plaguing the Department since just before the merger. The Faculty of Fine Arts at Sir George had been able to initiate a Cinema Section - a costly undertaking - even though Loyola had a strong cinema component integrated fully into its curriculum at that time. The Cinema Section on the Sir George Campus had scarcely gotten underway when pressures began to be exerted on Loyola's Department concerning unnecessary duplication of courses, of professors, and of costs. Loyola responded by calling for a Task Force of Senate to examine the question and make recommendations but it never completed its mandate. Senior posts in the University had been reorganized with the result that each Department now reported to a different Vice-Rector. As might be expected this reduced tensions considerably. But now, once again, questions were being asked about the costly duplication of the two film programs. In his letter Fischer wrote: "We can understand why Fine Arts could be a part of Communication Studies. The converse makes no sense to us--at least without distorting the Department, its faculty, its courses, by forcing an orientation and 'raison d'être' alien to its present nature and its proper place within the Humanities Division.... I think it is high time this recurring and unreasonable pressure stop." He included with the letter two papers which John Buell had written, one on "Communication Studies as a Comprehensive Discipline" and the other on "Communication Studies and Fine Arts." This letter seems to have settled the matter once for all and the question was pursued no further.

Fischer introduced two new programs in cooperation with Journalism, one a B.A. with a Specialization in Communication and Journalism and the other a Specialization in Broadcast Journalism. He opened negotiations for the Master's Program, a

project that was to occupy a large part of his term. After clearing all the required committees within the University, the proposal was vetted by several external committees and finally approved. Entitled 'A Master of Arts (Media Studies)', the program provided for advanced study in the theory and the professional practice of mass media and offered courses focusing on (i) Media Policy, Responsibility, Management, (ii) News, Public Affairs, Documentary Media. Additional courses offered study in communication theory, media research methods, and media aesthetics.

Fischer was succeeded by Lindsay Crysler, Head of the Journalism Program, as Acting Chairman of the Department. The Graduate Studies Committee, consisting of Professors Crysler, Valaskakis, and myself as Program Director was struck in the fall of 1981 and soon after began screening applicants for the 1982-83 academic year. Initially the program was offered on a part-time basis in the late afternoon or evening but within a year began also to accept full-time students.

As the Department celebrates its twentieth anniversary, Dr. Gail Valaskakis, Chairperson, is actively involved in discussions concerning the feasibility of a Ph.D. Program in Communication, to be sponsored jointly by the two French-speaking and two English-speaking universities in the Montreal area. The idea is an intriguing one and if carried into action will constitute a program unique in North America, with each culture contributing its own particular strengths.

What I have attempted to sketch here are only some highlights in a twenty year span of existence. The real highlight though, attested to over and over again by our graduates, has been the quality of life in the Department and the commitment of faculty and staff to a total learning experience! The deep sense of community, always a hallmark of the Department, has been extraordinary! As I write these lines the faces of colleagues, both in the Department and in the University, of staff, and of hundreds and hundreds of students pass before my mind's eye and I realize more deeply than ever that the sum total of all these individual histories is the definitive history of the Department. It is of course an unfinished history because it remains to be seen what impact our graduates may have on the Canadian media scene as more and more of them move into positions of responsibility.

BIOCYBERNETIC COMMUNICATION RESEARCH
1967-1985
by Miroslav Malik

In September 1967, The Department of Communication Arts conceived of an idea for a communication research laboratory where the effects of mass media information stimuli (fim, video, photography, text, etc.) could be examined and analyzed scientifically.

The first physical set-up (eight square meters in the basement of the Bryan building) consisted of a few tachystoscopes, infra-red registrators, and mechanical audience response dials measurements. Speeds were limited to 1/10th of a second and communication analyses were often of manual, graphical origins.

The first framework subsidy to the laboratory came as a private grant from Fleetwood Industries. In 1968, Myer F. Pollock donated $5,000. for an eye-movement detection - the infra-red oculograph Eye-Mark. This was the first oculographic equipment for the purposes of mass audience impact measurements to be installed in Canada.

It allowed, during the 1968-69 academic year, for the realization of more than 120 projects on various analytic exercizes concerning film clips, photographs and television scenes.

Then in 1970, the department organized a Communication Arts summer institute in Europe. Our research laboratory procedures and methodologies were shown and demonstrated with considerable success at eight European film schools and five television networks in England, France, Germany, Austria, and Italy. Because of this institute, the department was accepted as the only Canadian representative to the World Council of Film and Television Schools (CILECT).

In 1972, the laboratory received a major grant of $78,000.00 from an anonymous donor. Then, after two years of building in 1974, the laboratory on the fourth flour of the Bryan building was opened and dedicated to Myer F. Pollock, President of Fleetwood Industries, a pioneer in the Canadian radio and television industry. The new laboratory contained a programmed multi-media system for 60 audio and video channels, a modern, advanced biometric set-up and basic equipment for experimentation in holography.

The Aims of the Laboratory were:

- to foster research in new communication media
- to foster research in the measurements of the information impact of existing communication radio
- to foster research in media-related cross-cultural communication.

The Main Areas of Research were:

1. New Communication Media:
   - 3D film and television
   - Coherent light communication devices
   - Information matrices development and effects
2. Media Impact as Society:
   - Psychological Impact Measurements
   - Biometic and Biotelemetric Visual and Audio Information Measurements
   - Psychological Impact of Information
3. Information Barriers:
   - Cross-cultural Information Exchange and Impact
   - Data Transmission Cross-Cultural Impact
   - Inter-species Information Exchange and Impact

Projects were carried out in three broad streams:

1. Communication Analysis
   These studies and projects aimed at the assessment of reality for communication purposes. Using the system theory, cybernetics, and multi-variate analysis, various realities (buildings, streets, interiors, parks, landscapes, social situations, etc. were assessed for the purpose of film, radio and television programming; for urban and evironmental studies; and for cross-cultural and social use of communication media.

2. Communication Research
   These studies were aimed at information impact on humans. By the use of biometrical and biotelemetrical methodology, various mediated information (pictures; sounds; film; radio and television programs) were tested on sample audiences. The measurements and test were mainly carried out for the communication industry - to help artists in the creation of art.

3. Communication Programming
   These were studies of a syntactical nature, aimed at information design, the assembly of artwork using one or more communication media. The projects emphasized the programming or 'orchestrating' of mediated information into coherent artwork. Included were holographic art and exercises.

Between 1973-1976, the methodology of biometric audience response measurement was demonstrated at two national and eight regional seminars for Canadian Broadcast Corporations personnel attended by more than 400 producers, designers and programming executives. Radio-Canada Montreal published the proceedings of one of the seminars in 1976 under the title, "Dessins de l'Information." In fact, upon our example, commercial laboratories for audience response measurements were established in the U.S.A., Europe, Australia, and Japan.

As early as 1973, the laboratory carried out more advanced research aimed at artificial intelligence units used for the biofeedback application of biometry. In relation to this, the Canada Council funded a project on "High level video digital language" designed to help artists (producers, designers) of television programs using audience biofeedback during production.

In the early 70's, part of the laboratory's activity was devoted to laser technology's application of film and television production. Small experiments were performed during the 1974-75 CBC seminars. But then in 1976 an international seminar on holography was held by the Department of Communication Studies. Leading figures of research attended: Professor Komar (USSR), Professor Yeong (USA), and Professor Eigel (Czechoslavakia) as well as more than 1,500 participants. Since then, holographic seminars are held regularly at the laboratory.

In 1979, the biometric laboratory was completed with an X-Y plotter and portable visual detector camera. Both gave the unit such versatility and portability that within the next two years the 76 projects with location components were completed.

Then in 1981, the first telemetric system, with a range diameter of 2½ miles from the transmitter, was installed in the biometric laboratrory. In 1983, a new datagraph for multi-channel electroencephalographic recordings was purchased and used in two academic courses.

At the present time, the laboratory works in three distinct fields:

1) 3D Communication Media
Investigation into three-dimensional film and television systems, holographic systems, potential audiences, programmes, and designs.

2) Media Information Impact
Biometric and biotelemetric testing aimed at pre-production testing and audience evaluation research for communication media and studies in communication analysis for prospective media programs.

3) Cross-Cultural Communication Testing
Comparative testing of information media impacts on minorities ethnic, and aboriginal groups utilizing the mobile biometric laboratory.

Programme Activities of Myer Pollock Communication Research Laboratory consist of research, academic, publications, and consultation activities.

1. Research Projects

Specific tasks performed for governments, universities, the communication media industry and other research institutes in:

Information Analysis
Systems Analysis
Information Values Assessment
Information Impact Measurements

2. Academic Activities

Small specific academic programs in 3D communication and biometric research are conducted on an internship basis at the laboratory.

Advanced Tutorial Graduate courses are offered in:
Communication Analysis
Communication Research
Communication Programming

Seminars for Professionals are offered on:
Information Design
Information Impact on Media
Information Measurements

In addition, periodic short courses in specialized research topics are held from time to time as are meetings, seminars and conferences for professionals in the communication media industry.

3. Consultations

Members and research associates of the institute are available for a wide range of consultations to government and industry.

4. Publications

Research results, reports, academic and theoretical works, scholarly papers and year-end reports are published by the laboratory's departments.

The Future Developments of Myer Pollock Communication Research Laboratory

There are three future streams of possible development within the frameworks of Myer Pollock communication Research Laboratory:

1. Biocybernetic Assessment of information impact on mass media audience.
   Here, more sophisticated data extraction methods are planned. Recent developments include chemospectrography of the brain (brain cortical scans), radiospectrography of the brain (CAT - Scans) and magnetometry of the brain.

2. Cross-Cultural Communication Biocybernetic Unit.
   Here, a mobile biometric laboratory is planned with emphasis on fieldwork conditions for multi-channel, biotelemetric set-up. The cross-cultural aspect will be centered on Inuit, Amerindian and Pacific indigenous populations.

3. Communication Programming Testing Stage
   Here, a broad range of experiments is being planned with the use of research stages and programmers of the laboratory. A Multi-Media, scenographic approach will be tested as a real 3-D unit for future holographic film and television scanning.

These three approaches will be activated through research tests, academic courses and periodic seminars.

So in conclusion, the Myer F. Pollock Laboratory has come a long way since its basement beginnings to where it is now a thriving, internationally recognized communication research center.*

* A list of researchers, consultants and projects follows.

APPENDIX

Persons and researchers directly involved in the activities and projects of the Myer Pollock Communication Research Laboratory:

1. Concordia University
   Dr. M.F. Malik - involved in 8 research projects, teaching 4 research courses with the use of the laboratory.
   P. Bringolf - involved in 2 research projects, teaching para-academic seminars in holography.
   H. Thwaites - involved in 3 research projects.
   Dr. V. Zeman - Dept. of Philosophy - involved in 1 research project.
   Dr. N. Metallinos - involved in 1 MA project.

2. University of Montreal
   Dr. E. Cerny University of Montreal (Informathèque) - involved in 2 research projects.

3. University of Calgary, Alberta
   Dr. D. Bresky - involved in 1 research project (leader), 1 planned research project (participant).

4. Humber College, Rexdale, Ontario
   Prof. G. Fallada - involved in 1 research project.

Researchers and resource persons involved in the laboratory activities as consultants:

Radio Canada: R. Giroux - Centre de perfectionnement professionel; J.C. Rinfret - Direction de programmation
Radio Quebec: K. Ludvik - Director de programmation
CBC - Toronto: L. Lawrence - ESO Training Department; V. Strazovec - ESK Scenographic Institute
CBC - Edmonton: W. Porth - Director
CBC - Vancouver: G. Syroitschko - Personnel manager
Télé-Métropole: J.P. Ladouceur - Producer
NFB: R. Blais - Producer; C. Low - Director, Research committee; G. Graham - Past Research Director
GPL Architects: C. Provencher, Architect
GPG Group: M. Pflug, Consultant
Parks Canada: Bob Dore, Consultant
INSAS - Bruxelles: R. Ravar, Director
British National Film School - London: C. Young, Director
Australian Film and Television School: S. Walton, Director
Hochschule fuer Film und Fernsehen: K. Langsfeld, Professor
Film Institute - Zagreb: M. Illic, Research Director
Pomona University - California: E. Rose, Dean of Arts & Science
Ohio State University: R. Wagner, Professor Emeritus
San Francisco State University: H. Zettl, Professor
Alaska, University: J. Roederer, Dean of Arts and Science
Nihon University: C. Yagi Professor
NASA: B. Kurtz, 3D Director
U.S. Dept. of Education: R. Blum, Grant Director

Research Program of Myer Pollock Communication Research Laboratory

Research in Progress:

1. Aesthetical Information Impact of Literary Text
   (Joint project with University of Calgary - Prof. D. Bresky)
   1978-1988.
2. World Video Encyclopedia
   (Joint project with Government of Alberta, Dr. D. Morton)
   1977-1990.
3. UNICODE - World Information Network
   (Joint project with University of Calgary - Prof. L. Grossman)
   1976-1986.
4. Information Matrixes
   (Joint project with University of Alaska - Prof. J. Roederer, University of Vienna - Prof. R. Brix, University of Uppsala - Prof. V. Gabrielson, and University of Zurich - Prof. V. Krulis) 1977-1990.
5. Musée National de la Civilisation
   (Joint project with PGL Architects of Montreal and Government Quebec).
   1981-1988.
6. Biometric Profiles of Classical Art Compositions
   (Joint project with University of Utrecht, Holland - Prof. L. Reznicek)
   1981-1988.

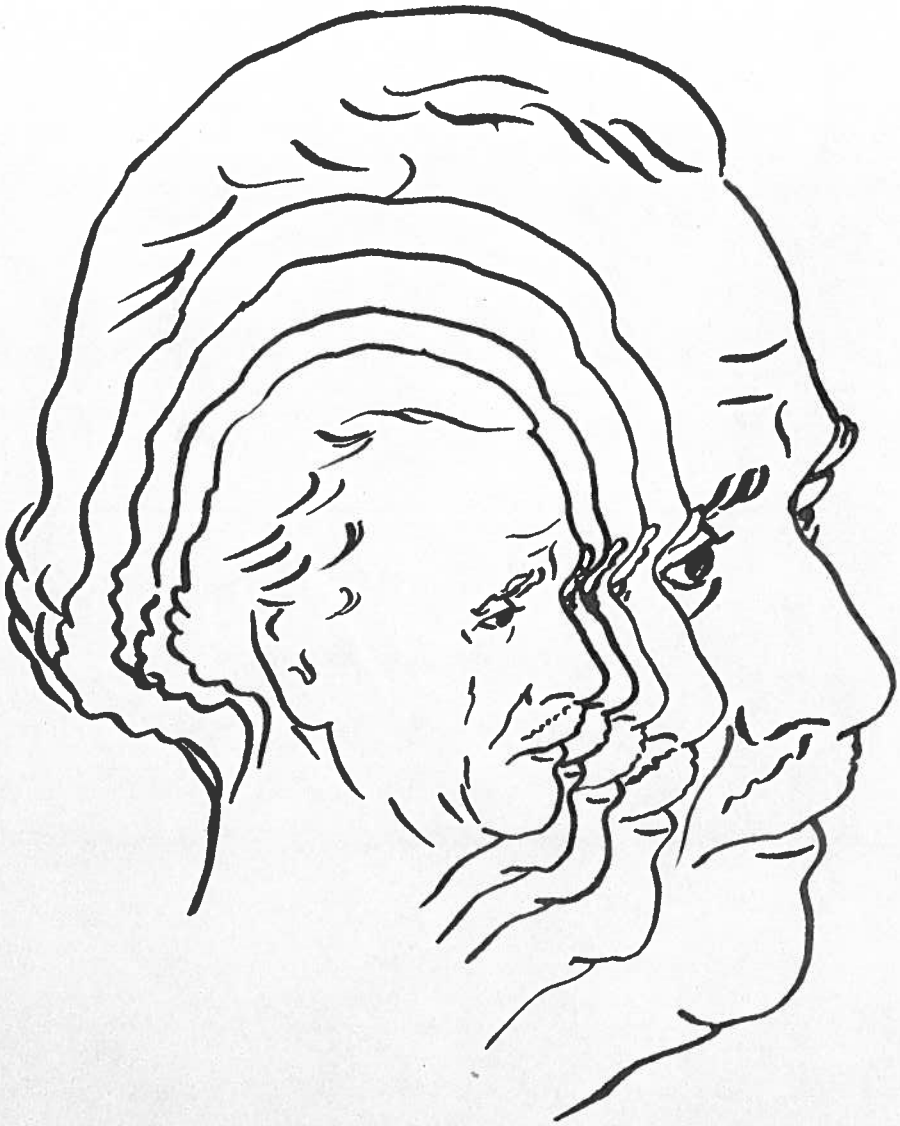
Research Planned:

1. Biometric Analysis of Teletext Systems
   (H. Thwaites - project leader)
   1981-1986
2. Spatial Communication Analysis of National Parks, Landscapes and Historical Monuments (Dr. M. Malik and B. Dore - National Parks - project leaders)
   1982-1988
3. Biometric Analysis of Holographic Images
   (H. Thwaites, Prof. O. Schwelb (Project Leaders), P. Bringolf)
   1982-1986.
4. Biometric Investigation of Symbolic Information Complexes
   (Dr. M.F. Malik - project participant, in cooperation with Prof. J.E. O'Brien (project leader) and Social Communication Centre, London)
   1983-1986
5. Biometric Investigation of Multi-Screen Information Complexes (Dr. M. Malik - project participant; joint project with Dr. H. Zettl (project leader), San Francisco State University)
   1983-1993

6. Biometric Investigation of Sound Information Complexes
(Dr. M. Malik - project leader; joint project with University of Vienna, Prof. R. Brix, University of Thubingen, Prof. V. Breitenberg, University of Munich, Prof. V. Terhardt and Ossiach Symposium, Austria)
1983-1990

7. Digital Biometric Data Extraction
(Dr. M. Malik - project leaders; joining project with University of Montreal, Prof. E. Cerny and IMDT Vienna, Prof. V. Blankopf)
1984-1987

REVERBERATIONS



from a drawing by Eric Wesslow
photographed by Gilbert De Noble

THE NEW SCIENZA NUOVA *

by Barrington Nevitt

I greatly appreciate the honour and privilege offered by "our multi-versity" to participate in this celebration. It recalls to me with much pleasure and gratitude the early association that my dear wife and I enjoyed with Dean Henry Hall of Sir George Williams during the 1940's, as well as intermittent dialogue starting in 1969 with Father John O'Brien of Loyola, and my continuing seminars fostered by Dennis Murphy at Concordia since 1980. We have been endeavouring to create a new unity of Thought and Feeling, of Art and Science, for discovering what Mary Parker Follett (during the 1920's) was among the first to highlight: the new laws of our new situation.

Such a new New Science also recalls Giambattista Vico's Scienza Nuova (1725) that explored the languages of gods, heroes and men in history and mythology to reveal their hidden implications for humankind, past and present. We can likewise learn from Vico's own history to be cautious of conventional science that still excludes so much human experience. For, after suffering concussion and coma by falling on his head at an early age, the established medical practitioners of that time concluded that Vico could henceforth lead only the life of a vegetable. Some vegetable! Vico's New Science gave sustenance to James Joyce for his explorations of "inner space" culminating in Finnegan's Wake (1939) that re-played how "human nature" itself was transformed inadvertently from stone-age to modern man. Hitherto, we had been entranced by our own technological extensions, proclaimed as "thunders of the gods." Henceforth, by relearning how to use all our faculties to anticipate, rather than merely react, to the effects of technologies (both "hardware" and "software") we could bypass previously "inevitable Fate."

Vico also stimulated Georg Wilhelm Friedrich Hegel (1770-1831) to explore a dialectic of thinking that sought to explain the nature of human society in all times and places. While standing on old Hegel's shoulders and his toes simultaneously, young "Charley" Marx and "Fred" Engels (born in 1818 and 1820) launched a "spectre over Europe" with their Communist Manifesto (1847). And that still clouds the vision of now dominant nineteenth-century ideologists -- capitalist and socialist alike -- for both fail to recognize that its very prominence now proclaims its real obsolescence.

Meanwhile, the old dialectic of abstract Greek Nature, so dear to the minds of modern literati, has been engulfed by new media that have generated a Global Electric Theatre of instantaneous happenings, whose new hidden process patterns now dominate the old visible groundrules of Western civilization. Whereas medieval theologies thought of Angels as beings with discarnate minds somewhere, modern electric media can broadcast anybody as a discarnate mind everywhere in super-angelic form!

* Delivered at 1984 Concordia University Convocation

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We have had the experience, but are we still missing its meaning?

From Vico's day until we came of electric age, Western Science and Philosophy continued to separate thought from feeling, "inner" from "outer" space, and "subjective" from "objective" reality. Moreover, only modern English and medieval Latin have a word for "percept" (direct human experience of our encounter with the present world in its own terms). But Western scientists and philosophers alike have recognized only "concepts" (groups of similar, but never identical, percepts abstracted from past experience) that automatically re-present rearview-mirror images of every world. Instead of presenting a vision of the future, by perceiving present process patterns directly, Futurists are now devoted to projecting their concepts into future fantasies, ignoring that the future of the future is the present. On the other hand, pure Empiricists, who deny the validity of past experience, are like the criminal being led off to execution, who said: "This will teach me a good lesson!"

Electric speedup, which is the source of breakdown, also provides the means for breakthrough -- recognition of new patterns by INSTANT REPLAY. New technologies engender new environments of services and disservices that both blunt and sharpen human awareness. The Old Science substituted abstract concepts for human percepts, and T.S. Eliot understood why: "I talk in general terms because the particular has no language." By recognizing the primacy of percepts over concepts, as well as the impossibility of translating unique percepts into definable concepts, the New Science can adapt "instant replay" as a new bridge between them. Instant replay is a new multi-sensory means of reinforcing perception of present human existence, as thinking becomes doing in today's Communication Ecology.

Early in this century, Nils Bohr, who retrieved Eastern "complementarity" in Western science also remarked that: "The opposite of a correct statement is a false statement, but the opposite of a great truth may well be another great truth." Whereas the old scientist was in deadly earnest, the new scientist will unite thought and feeling with lively wit as a comprehensivist to enhance human understanding of new realities. He will recognize them playfully like the three umpires:

> Said the first: "I always calls 'em as I sees 'em."
> And the second: "I always calls 'em as they is."
> But the third had the last word: "Until I calls 'em,
> they ain't."

Which brings me to my last word. Concordia, as its name implies, is now re-creating a new unity of Art and Science that uses all our wits and senses to explore inner space, both in the Observatory of History and sub specie aeternitatis (under the aspect of Eternity). I am most grateful for the opportunity to share in this boundless adventure with your faculty, students and friends.

BARRINGTON NEVITT:
A Man of Comprehensive Understanding

by Dennis Murphy

A chance occurence in the summer of 1980 gave me the opportunity to meet someone whom I consider to be the embodiment of the theme of this anniversary publication: Humanism in a Technological Age. In Toronto that year, I attended the First Global Conference on the Future, sponsored by the World Future Society and the Canadian Association of Future Studies. Among the throngs of participants I happened across a man discussing a little known work of his: ABC of Prophecy. I stopped to listen and became enthralled with his discussion:

- Media are never neutral.
- Jokes are percepts, never concepts.
- Whereas the scientist looks for causes to account for the effects he observes, the artist starts with the effects he desires and learns to create their causes.
- The ideal person today to understand the effects of media is not the specialist, nor the generalist, but the comprehensivist - someone who doesn't have to know everything about anything but who can grasp the relationships of many things among their relationships to each other, and their environment, including ourselves.

Having read Marshall McLuhan, I felt some of this was quite familiar. So I struck up a conversation with this man, Barry Nevitt, who, much to my surprise, was a close associate of McLuhan's at the Centre for Culture and Technology at the University of Toronto. I had forgotten that Nevitt was co-author with McLuhan of Take Today: The Executive as Dropout which, in many respects, was based on his own experience, broad knowledge of the sciences, and deep appreciation of the humanities. One major difference between the two men was that each came to his approach to human problems via very different routes. Nevitt is a communications engineer by profession who took part in its development from an Art to a Science. He was also responsible for the design, installation and management of both small communication equipment and of large-scale systems from northern Canada to southern Argentina, and from eastern China to western Russia. His route to understanding media effects came not so much from literature, as had McLuhan's, but rather from his early classical education, his profound interest in the philosophy of science, and his long residence abroad as an engineer and business executive. Rather than an impediment, this route allowed Nevitt and McLuhan to be excellent complements to each other. While working and playing together for more than a

decade, Marshall and Barry shared their knowledge and ignorance freely: not merely for matching the old, but for making the new deliberately.

In the late 1960's, William Harman, noted engineer and futurist, wrote a short article for the Stanford University alumni magazine in which he stated that the next threshold for human understanding would be the integration of science and the subjective experience of people. The article, entitled "The New Copernican Revolution," agued that our ability to measure and objectify hitherto unquantifiable phenomena such as emotions, religious experiences, dreams, etc., would provide a major impetus to understanding human evolution. As a "comprehensivisit," Barry Nevitt is providing us with another opening to understand the integration Harman spoke of through the study of media effects, the interaction of technology and humanism, and the integration of "arts and science." Instead of trying to reduce Art to Science (or vice versa) or of reducing qualitatively different human experience to quantifiable scientific description, Nevitt embraces their complementarity as incommensurable; for him, what makes life worth living cannot be measured but can be made manifest.

A very appropriate introduction to his thinking is found in the convocation address on "The New Scienza Nuova," that he gave last year at Concordia University's Humanities and Science Division's graduation ceremony; it is reprinted in this monograph just prior to this article. In his address we get a glimpse of the complementarity of the "objective" and the "subjective," of "thought and feeling," of inner and outer space in the interplay of technology and human beings. He recalls the multi-sensuous insights of James Joyce for those who would understand how we became the content of any medium. This convocation address is a clear illustration of how Barry's work is not merely a "restatement of the basic insights provided by Marshall," (correspondence with a McLuhan family member), but also an extension of our understanding of McLuhan's work while offering fresh insights into many other fields. Barry's friend, Eric Wesselow, internationally renowed portrait artist and inventor, has said that Nevitt's work has gone beyond the doors opened to us by McLuhan and "has traced new relationships and projected future realities."

In order to grasp how Nevitt has done this, it is necessary to refer to his most recent major work, The Communication Ecology: Re-presentation versus Replica (Toronto: Butterworths, 1982). As Frank Zingrone of York University has said of this work in his review of it in the Canadian Journal of Communication (9/3: 57-71), "One of the most remarkable aspects of this book is that Nevitt almost heroically declines to rehash

or expropriate the work of others." (p. 66) Quite literally, Nevitt's book is a compendium of major and lengthy citations from many areas of scholarship, scientific research, literature and personal investigation that have influenced his thinking. If Edgar Allan Poe's essay on "The Philosophy of Composition," has contributed to Nevitt's insights, then it is quoted in full in the book. If a hitherto unpublished essay by Edmund Carpenter evoked meaning for Barry in his discoveries, then it too is quoted in full. The same is true in citing McLuhan and other authors. This procedure is quite unheard of in most academic publications. However, this "method" Nevitt uses is faithful to his understanding of the process of discovery itself.

This process is also basic to understanding what Nevitt is proposing to us. He replays "raw data," which we then also can use for discovering relevant questions to explore with him. Nevitt does not expect us to parrot his own thinking, any more than he wishes to parrot others. He asks rather for dialogue based on shared knowledge and ignorance to engage all participants in making new discoveries. Rather than presenting a thesis for us to reject or accept, he provides information for us to be attentive to or "to participate," as he says echoing St. Thomas Aquinas. (Note that the more habitual "to participate in" is consciously not used.)

Nevitt discusses this very process when he addresses the distinction between concepts and percepts. Concepts are "replays of percepts, software tools abstracted from repeated percepts of similar past experience." (The Communication Ecology, p. 176) I begin with "concepts," because that is a word with which we are most familiar. Concepts are generalizations; they are essential for human discourse so that we don't have to invent new ways of "outering" our experience each time we talk. However, despite this obvious service, concepts also have one enormous shortcoming. No matter how hard we try, no concept can ever address the present. A concept by nature is already past. It deals with an agglomeration of past experience and hence is not able to replay the present in its own terms. As futurist, Nevitt recognizes that the Future of the future is the present. In order to come to terms with the future effects of any technology, we must know the present in its own terms and hence we must rely on some other facet of our human abilities to recognize process patterns, neither merely visual nor conceptual, but perceptual and multi-sensory.

Percepts are not perceptions. For, as St. Thomas Aquinas understood: "Perception is a relation among relations apprehended in our sensory lives." Percepts, rather, are the "raw sensory data of human experience generated by direct encounter with experience." (The Communication Ecology, p. 176).

Percepts by definition are always new and fleeting. They cannot be otherwise. Nevitt thus replays Heraclitean awareness that "everything flows," as contrapuntal to Shakespeare - "There is nothing old under the sun." It is this ability we have to pay attention to each and every experience directly that we have neglected to the detriment of our understanding of technology and its effects. It is essential to remember that each and every time we listen to a medium or look at a medium, we are always encountering a new experience. We must also realize that this process occurs simultaneously with the build-up of concepts and stereotypes.

This aspect of the constantly changing, of the renewable, or of the uncertain forms a basis for thought in the sciences during the late twentieth century as well a basis for thought by professionals in the arts, the sciences and academia. In a recent article discussing the mind, Richard M. Restak quotes the late Walter Kaufman of Princeton in his Discovering the Mind: " . . . man is his deeds . . . mind is what it does, and . . . the way to discover the mind is not through concept-mongering, but through experience." (The Wilson Quarterly, Winter 1984; 3/5, p. 52).

Tony Schwartz, noted television and sound practitioner and communication theorist, also underlines this process of encountering new experience in an interview in The Los Angeles Times (Monday, December 24, 1984, Part VI, p. 10). Schwartz claims that with media, "P.R." no longer refers to Public Relations. For him, "P.R." is now redefined as "Personal Retrieval." "Manipulation? Another 'yesterday' word," notes the article, that Schwartz has replaced with partipulation. We're not manipulated; our stimuli are massaged." For example, Schwartz believes that "much advertising makes us its work force by evoking responses that we have been storing throughout our lives. It doesn't create; it stimulates that which is already there."

Thus, comprehensivist Barry Nevitt enjoins us to understand how we as human beings have the ability to process and make use of our information environment. And he does this by being true to his thought. He presents major chunks of data, major excerpts from a multitude of sources, for us to experience as well. We are not forced to think as he does but we are invited to discover. This is the process Schwartz pinpointed: the recognition of the importance of percepts in our lives. This is clearly a call to recall our humanity in the face of technology. Nevitt does not deny technology nor does he laud it. He does not see media as threats to human existence nor does he see them as major political tools for good or for evil. Nevitt encourages us to rediscover something which has been present

among us throughout human history. He stimulates us to rediscover that technologies and media are human artifacts which create services and disservices simultaneously. He, therefore, places responsibility where it can only be placed - with human beings. He invites us to remember what we always seem to forget; any human artifact is changed as it changes us, and vice versa.

But in any discussion of Barrington Nevitt, we must also be mindful of the following. When we explore "an epistemology of experience," we must be acutely aware that this exploration cannot be put into language. As Barry himself has said on many occasions, this process of putting something into language forces us to end up with something other than what we are trying to explore. "We must realize that we can't put it into language but we can discuss it." The difference between the two is the difference between a hard and fast statement in most academic endeavours compared to an invitation to understanding. It is, to paraphrase the French poet, Stéphane Mallarmé, whom Barry is fond of quoting:

> To define is to kill
> To suggest is to create.

This article is not meant to be a summary of Nevitt's thought. The purpose of this article is simply to introduce this thinker and his insights central to the understanding of media as environments as well as his discoveries in grasping the integration of human beings and our artifacts. In discussing Barry Nevitt, we have not touched upon his use of "figure/ground" relations as probes to expose the message - "the totality of effects" of any medium. We have not touched upon how the study of any medium begins with its effects, as any artist does when he creates. We have not discussed the fundamental distinctions between Transportation Theories of Communication (concerned with matching inputs to outputs of machines) and Transformational Approaches for Communication (concerned with making sense for people). Nor have we discussed his insights into the four basic questions, developed with Marshall McLuhan, to explore the "vortex of power," created by any artifact (i.e., what does it enhance; what does it make obsolete; what does it retrieve from the past; and, what does it flip into when pushed to the extreme?) Nor have we touched upon his making an "inventory of effects," for any artifact in order to make manifest both its "meaning" (for each of us) and its "message" (for all of us). These are all essential elements in the understanding of humanism in a technological age. Sometimes we need to be reminded that there is no humanity without human beings; so also for the interdependence we have with any artifact we create.

A Passionist monk who had occasion to work with Barry once said the following about this comprehensivist:

> "I wish I had a pocket edition of Barry Nevitt's work as I face the new challenges in the days ahead. As I see it - there is immense survival value in the work you are doing. If I could go back to school again, I would want to learn to see what you see."

Barry Nevitt has indeed provided this stimulus for those of us interested in understanding media. Marshall McLuhan provided an insight into the function of media in any society. And he did it simply by paying attention to what happens. Barrington Nevitt has furthered these insights by suggesting how we may discover the constantly changing interdependence and interrelationship of people and media, of mankind on the threshold of the twenty-first century as we continue to remake our own nature with the artifacts we have created. And Nevitt has done this by paying attention to what happens without recourse to any prescriptive ideology or rigid philosophy. He simply invites us to

STOP, LOOK, AND LISTEN!

for "we are not alone in our boundless multiverse."

COUNTERPOINT: GLENN GOULD & MARSHALL McLUHAN *

by Paul Theberge

I

> It appears that for the memorializers and public mourners it is necessary to reduce him to the level of a mere top-ranking piano virtuoso. It is as if Gould the passionate moralist and Gould the innovative sound sculptor had never been...[1]

Glenn Gould, from 1955 until his death in 1982, was one of Canada's most internationally celebrated pianists. He was also well known for his controversial ideas concerning the recording medium and his uninhibited use of tape editing in making musical recordings. It is perhaps interesting to note that Glenn Gould has become the victim of another sort of editing - the screening out of that which is most disturbing or most threatening in his thought. In the second edition of his book, Glenn Gould, Music & Mind, Geoffrey Payzant lists some of the attempts that were made to commemorate Gould after his death in the fall of 1982. These include the circulation of a petition to name a concert hall after him and the move to establish an annual piano competition in his memory. All this for a man who, at the age of thirty-two, voluntarily left the concert hall stating that it would cease to exist as a cultural institution in the twenty-first century; a man who spoke out against the spirit of competition and cited its destructive effects on music making and on the development of Western society as a whole.

Payzant indulges in a certain amount of editing in his own right. Throughout his detailed study there is not a single reference to the work of Marshall McLuhan. Yet Gould, in his own writing and in interviews, made numerous references to McLuhan, stated that he had a great admiration for him and that they had once been, in fact, neighbors. It would appear that Payzant, for whatever reason, has systematically edited out Gould's references to, or associations with, McLuhan and his ideas.[2] This is a serious omission.

In this paper I will explore some of the areas in which Gould's ideas concerning the recording medium intersect with McLuhan's more generalized theories of media and technology. What is central to the discussion presented here is not only the fact that many of Gould's ideas bear a striking resemblance to those of Marshall McLuhan, but that Gould developed his theories while engaged in an intense re-evaluation of an artistic practice. The relationship between technology and the artistic imagination is a recurring theme in McLuhan's work and in Gould's as well.

* will be published in the Canadian Journal of Political and Social Theory, Vol. X, No. 1-2, 1986.

II

> I've never conceded any real contradiction between the assumption that one can have a rather solitary existence and the fact that one can supportively have radio in the background at all times.[3]

Glenn Gould was a quintessential "McLuhanesque" figure. He truly lived as though technology was an "extension" of himself. In the latter part of his life, when solitude became more and more the necessary condition under which his creative efforts were realized, Gould used technology both as a way of maintaining contact with, and a way of protecting himself from, the outside world. He seldom saw his closest friends but constantly talked with them over the telephone. There were even those whom he felt close to although he had never met them in person. "Do you know the writer Jonathan Cott? A very interesting man, and a friend of mine. We've actually never met; our relationship is...terribly telephonic."[4] For Gould the recording studio was not only the site from which he communicated with his listeners but it also offered "the privacy, the solitude and the womb-like security (in which) it was possible to make music in a more direct, more personal manner than any conert hall would ever permit."[5]

McLuhan viewed technology not simply as a "medium," but as an "environment." Gould is said to have carried a radio with him at all times; he made it his constant environment:

> Radio, in any case, is a medium I've been very close to ever since I was a child, that I listen to virtually nonstop: I mean, it's wallpaper for me - I sleep with the radio on, in fact now I'm incapable of sleeping <u>without</u> the radio on.[6]

Gould claimed that at night the hourly news sometimes provided the material for his dreams.

Gould was also able to make use of his radio environment, to put it to work for him. His constant audio input, sometimes provided by more than one audio source, supplied Gould with a means of dividing his areas of concentration. "Quite mysteriously, I discovered that I could better learn Schoenberg's difficult piano score, Opus 23, if I listened to them both at once, the FM to hear music and the AM to hear the news."[7] On another occasion Gould described how he began to master a particularly difficult passage in a Beethoven sonata by placing a radio and a television next to his piano and turning them up "full blast." "The fact that you couldn't hear yourself, that there wasn't audible evidence of your failure was already a step in the right direction."[8]

Gould's ability to divide his various levels of consciousness through the manipulation of his audio environment resembles the type of simultaneous awareness that McLuhan spoke of in relation to the "field" experience of the "oral-aural" person. In the first example cited above, Gould achieved a sense of heightened receptivity while submerged in a multi-channel environment; in the second, he used sound to block the "audile-tactile" relationship which forms the very basis of playing the piano or any other musical instrument. Gould's notorious irrepressible habit of singing while playing the piano, which is clearly audible in many of his recordings, is perhaps another indication that, more than most musicians, Gould was indeed McLuhan's "oral-aural" man - incapable of remaining silent, totally involved in an activity that required "the participation of the whole body and the whole mind."[9]

III

> In an unguarded moment some months ago, I predicted that the public concert as we know it today would no longer exist a century hence, that its functions would have been entirely taken over by electronic media. It had not occurred to me that this statement represented a particularly radical pronouncement. Indeed, I regarded it almost as self-evident truth...[10]

Gould's pronouncement was regarded as radical by the musical establishment and, now that a respectable length of time has passed since his death, the opposition to his ideas has once again surfaced. A recent record review has pointed up "the ruinous effect that the uncritical acceptance of Gould's extreme ideas has had" and flatly states that "his assertion that the concert hall was an anachronistic arena...was incorrect."[11] To argue that the institution of the concert hall still exists, however, is not enough to prove that Gould's ideas were false. Gould regarded the concert hall as not simply a social institution but as the symbol of an economic and moral system.

For Gould, the concert hall was a "symbol of musical mercantilism." This was perhaps an unfortunate choice of terms for he used "mercantilism" only in the broadest sense of the word and not in its more historically specific usage. More precisely, Gould was speaking of the rise of the concert hall in relation to capitalist modes of production and consumption, and the specialization of the roles of the composer, the performer and the audience.

McLuhan woud likely have agreed with this analysis but for entirely different reasons. For McLuhan, the concert hall and the industrial factor represent a cultural and economic order based on print technology:

> ...the first printing of musical scores in the sixteenth century...became the basis of the great musical developments of the eighteenth and nineteenth centuries. The same kind of fragmentation and specialism in the arts and sciences made possible mammoth results in industry...and in massive cooperative enterprises such as...the symphony orchestra.[12]

Today, the creation of demand has become as important to the capitalist economy as the production of consumer goods. "Top 40" radio programming and, more recently, music video are hybrid entertainment/advertising formats which provide essential promotional support (and royalties) to the music industry, as well as creating a self-perpetuating pattern of consumption.[13]

In an economic system that seeks to produce not only the objects but also the conditions of consumption, it is perhaps the recording and broadcast industries that should be regarded as the most dynamic symbols of that system. Viewed in this way, Gould's prediction concerning the disappearance of the concert hall has, to a large degree, already come true.

Gould felt that the concert hall performer occupies a privileged position, operating as he does from a "power-base", savoring an intensely individual form of "ego-gratification."[14] But as Edward Said points out, it is also a position implying a certain vulnerability: "In the concert hall, the emphasis had been on the reception by an audience of a live performer, a commodity directly purchased, consumed, and exhausted during two hours of concert time."[15] Gould insisted that concert audiences possess a desire for communion with the performer mixed with a good measure of what he called "blood-lust" - the desire to see the performing acrobat fall from his wire. Gould's personal conflict as regards the concert hall was essentially a moral one. It was his hope that the intervention of technology would enable the performer "to operate at increasing distances from, to be increasingly out of touch with, his animal response to confrontation."[16]

The recording studio may indeed protect the performer from the more direct influence of his ticket-purchasing public, but it places him in a new relationship to that public and to the system of late capitalism as a whole. In a sense, Gould's

attitude was perhaps focused too closely on the production environment and not on the market system. His moral stand against the concert hall and his belief in the technological possibility of liberating himself from the system it symbolized was, in some ways, a case of self-deception. Like McLuhan, Gould "had no systematic, or even eclectic, theory of the relationship between economy and technology."[17] But to take him to task on this point is perhaps unfair for unlike McLuhan, Gould had not set out to construct an overall theory about the effects of technology. Gould was more interested in the aesthetic dimension, the contrast between the experience of the concert hall and that of listening to a recording.

IV

> No musician of our time had given so much thought to the prospects of recording or had better exemplified, through his major career decisions, the practical and philosophical consequences of technology.[18]

Glenn Gould made this statement about the conductor, Leopold Stokowski, but it could also be applied to Gould himself. In 1964, carrying out a promise he had made much earlier, Gould played his last public concert and retired to the recording studio to explore what he considered to be the "limitless possibilities" of the recording medium. The following year Gould created a radio program for the Canadian Broadcasting Corporation entitled, "The Prospects of Recording." An adapted version, which was published in essay form in High Fidelity magazine in 1966, provides a detailed account of the effects, and the possibilities, of recording technology on music. It is perhaps, more than any of Gould's other writings, his "manifesto" on the subject of sound recording.

In "The Prospects of Recording," short-comings of the concert hall experience are juxtaposed with the possibilities of the recording medium under three headings: "A Change of Acoustic," "An Untapped Repertoire" and "The Splendid Splice."

A Change of Acoustic

Gould stated that recordings offer the listener an experience of music that is characterized by an "analytic clarity, immediacy, and indeed almost tactile proximity."[19] The latter characteristic is reminiscent of McLuhan who privileged audio technology (along with television) for its role in "the recovery of tactile experience... a striving toward the union of the audile and tactile."[20] Indeed, Gould's recordings, which utilize close miking techniques, are distinguished by their uncanny ability to convey a sense of the tactile experience of music.

Before the advent of recording, "concertgoers preferred that their occasional experience of music be fitted with an acoustic splendor, cavernously reverberant if possible."[21] Gould stated that the concert hall experience tended to support a kind of "reverence" for music. As our environment of recorded sound has become more pervasive, and our experience of music more "casual," the pursuit of the "cathedral-like" sound in recording has, consequently, become inappropriate. The home listening environment calls for an acoustic experience which is both "intimate" and "impartial."

Elsewhere, Gould spoke of the advantages that the characteristic of "analytic clarity" has for both the performer and the listener. The concert hall environment requires that the performer project the music outward so that it can be heard by 2,000 - 3,000 people. This often requires the performer to force the tone from his instrument, substituting power for subtlety of execution. An overly reverberant hall may also require the performer to choose slower tempos so as to retain some degree of clarity in the musical texture. To do so, however, means that the performer may have to sacrifice his notion of the "ideal" interpretation of the work. The concert listener on the other hand is seldom able to avail himself of the best possible experience of the music as his listening perspective may be compromised by the size and acoustics of the hall itself, and his location in it.

The "analytic clarity" which the recording studio environment can provide allows the performer a greater freedom and subtlety of approach to the interpretation of music. Likewise, the listener is offered a sense of "immediacy," a closeness to the source of the sounding music which represents a complete break with his former experience in the concert hall, an experience which was fundamentally one of distance.

Gould's own prediliction for the contrapuntal intricacies of Baroque music, particularly that of Bach, and the complex music of twentieth-century composers such as Hindemith and Schoenberg was well suited to the qualities of the recording studio. He often spoke of the microphone's ability to "dissect" the music, to reveal the inner workings of musical structure. Of Schoenberg's musical theories he stated that they attribute "significance to minute musical connections and they deal with relationships that are on the whole sub-surface and can be projected with an appropriate definition only through the intercession of electronic media."[22]

An Untapped Repertoire

Recording has also helped to create a greater emphasis on music that has its historical origins outside the concert hall tradition. McLuhan claimed that "the tape recorder in combination with the L.P. revolutionized the repertory of classical music... it brought in the entire musical culture of many centuries and countries."[23] But the new listening environment created by the phonograph was also an important factor in the development of new repertoire. Gould believed that since WWII, the great revival of the music of the Baroque and pre-Baroque periods, musical forms that relate to a tradition of "hausmusik," was, in part, a result of recording industry initiatives designed to meet the requirements of a home listening environment.

In the recording studio, the performer is met with a new challenge:

> He will necessarily encounter a wider range of repertoire than could possibly be his lot in the concert hall. The current archival approach of many recording companies demands a complete survey of the works of a given composer, and performers are expected to undertake productions of enormous scope...[24]

At the same time, however, this "archival responsibility" frees the performer from what Gould elsewhere described as the incredibly "conservative" discipline of the concert hall, a discipline that requires a relatively small repertoire of music to be kept in top form, always ready to be performed. Ultimately, the concert discipline causes many performers to distort their interpretations of a work in order to defeat the deadening effects of overexposure.

The recording medium allows the performer to approach each work in a completely fresh way:

> It enables him "to establish a contact with a work which is very much like that of the composer's own relation to it. It permits him to encounter a particular piece of music and to analyse and dissect it in a most thorough way, to make it a vital part of his life for a relatively brief period, and then to pass on to some other challenge...[25]

Furthermore, Gould asserted that the recording medium has changed the manner in which some performers interpret music, particularly contemporary music. The performer can present the music to his audience "from a strongly biased conceptual viewpoint, which the private and concentrated circumstances of their listening make feasible."[26]

The Splendid Splice

It was not until after the Second World War, when the tape recorder was introduced into the field of music recording, that the possibility of splicing together several "takes" of a musical performance became possible. Prior to this time a musical performance of a work, or a section of a work, would be committed directly to disc. The process was closer to a live performance (at least with respect to any sense of continuity in time) than that of the flexible, modular approach afforded by the new tape medium. McLuhan regarded the early phonograph as a simple "machine" which functioned according to a linear process. It was the tape recorder that brought sound recording into the electronic age. The new medium destroyed linear time; continuity was established after the fact by splicing together segments of prerecorded tape.

The most obvious advantage of this new capability was the reproduction of a seemingly flawless performance. Gould was hardly in great need of this simple rectifying aspect of the medium but had no inhibitions regarding its use either. He firmly disagreed with critics and purists that insisted that splicing was "a dishonest and dehumanizing technique." For Gould, the splice freed the performer to take risks, to perhaps adopt extreme tempos or other interpretive strategies that might be dangerous, even reckless, in live performance. The "ideal" performance could then be assembled in the editing room.

More important than this, Gould often used the editing process as a separate, parallel means of arriving at the specific interpretation of the work as a whole. He described an occasion when, after taping several distinctly different interpretations of a Bach fugue, he elected to splice together sections of two different takes in order to arrive at a more varied performance, one that represented his "best thoughts on this fugue." Gould realized that "By taking advantage of the post-taping afterthought... one can very often transcend the limitations that performance imposes upon the imagination."[27] Whether one arrived at a specific interpretation pre-taping or post-taping was irrelevant. All that was necessary was that the performer realize that the recording was not just a mechanical reproduction of a performance but rather, the performance and the recording were integral parts of a single creative process.

V

> The basic fact to keep in mind about the movie camera and the projector is their resemblance to the process of human cognition...The camera records and analyses the daylight world with more than human intensity...[28]

This dictum, made by McLuhan during the 1950's, can be applied to the recording medium by simply substituting the words "microphone," "tape recorder" and "sound world" in the place of "movie camera," "projector" and "daylight world." Gould's use of the microphone as an analytical tool was clearly in keeping with McLuhan's dictum but its relation to "the process of human cognition" is perhaps less obvious and requires further elaboration.

In an early essay entitled, "Joyce, Aquinas, and the Poetic Process," McLuhan reveals that his model of human cognition was that of the "labyrinth figure" as exemplified in the "articles" of St. Thomas Aquinas and in the work of James Joyce. The Thomistic "article" is in three parts: beginning with the "objections," proceeding through the "respondeo," and ending with the "answers to objections." McLuhan described this form as an "'S' labyrinth" and suggested that "this figure is really traced and retraced by the mind many times in the course of a single article."[29] The labyrinth also appears in the work of James Joyce, "who knew that the creative process itself was a retracing of the stages of apprehension."[30]

If music is a form of human cognition, then most contrapuntally structured music, and particularly the fugue, can perhaps be regarded as analogous to McLuhan's labyrinth figure. The fugal subject-countersubject form of organization, the texture in which simultaneous voices make use of devices such as imitation, reverse imitation and inversion, all bear resemblance to McLuhan's description of the multiple perspectives embodied in the Thomistic "article." Gould's recordings reveal the fugal labyrinth through his own unique style of playing the piano and through his use of the microphone as an aid in "dissection." Furthermore, his creative use of the editing process, the "post-taping afterthought," might be compared to what McLuhan described as the poetic process itself: "one of discovering by retracing."[31]

Gould's radio documentaries, which he referred to as "contrapuntal radio," move even further in the direction of the labyrinth. In these works he tried "to have situations arise cogently from within the framework of the program in which two or three voices could be overlapped, in which they would be heard

talking - simultaneously, but from different points of view - about the same subject."[32] The Idea of North, The Latecomers, and Gould's other documentaries of the late 60's and early 70's, with their simultaneous juxtapositions of music, sound effects, and multiple voices can perhaps best be described as "cubist" soundscapes. Throughout his writings, McLuhan privileged the "cubist perspective" as his prime metaphor for the modern electronic experience and for the process of human cognition in general.

VI

> As the performer's once sacrosanct privileges are merged with the responsibilities of the tape editor and the composer, the Van Meegeren syndrome can no longer be cited as an indictment but becomes rather an entirely appropriate description of the aesthetic condition of our time. The role of the forger, of the unknown maker of unauthenticated goods, is emblematic of electronic culture.[33]

Gould stated that Hans Van Meegeren, a forger of Vermeer paintings, was one of his "private heroes." In Van Meegeren he saw the crisis of "personal-responsibility-for authorship" which is inherent in electronic media production. Gould's account of the forger's activities is, perhaps, an attempt at a kind of McLunahesque "probe" concerning the effects of media.

Apparently, Van Meegeren sold his forgeries (all duly authenticated by critics and historians) to the Germans during the Second World War. After the war Dutch authorities charged him with collaboration and the selling of national treasures. As part of his defense he confessed that the paintings had not been Vermeers at all, and the enraged authenticators of his work then pressed the government to charge him with forgery.

The story of the forger led Gould to question the manner in which the value and status of a work of art is determined. Continuing in this vein, Gould claimed that the interdependence of formerly separate and specialized roles, which is a result of the process of studio recording, calls into question the authorship of the recorded musical performance. Those of a more traditional cast of mind distrust the techniques of the recording studio and prefer recordings of "live" performances. For Gould, this is a manifestation of the "Van Meegeren syndrome," a form of "rear-guard holding action," that seeks to authenticate the performer's interpretation and relegate the recording engineer to the position of mere documentor of the historical event. In contrast, Gould felt that the recording studio allowed him a

certain "anonymity" while working, and he welcomed the intercession of both the microphone and the recording engineer. The recorded performance of the musical work is, in a sense, a collaborative forgery. Ultimately, Gould's line of reasoning led him to question whether the concept of the work of "art" itself is still valid in the electronic age.

McLuhan was also suspicious of the "world and bureaucracy of 'art appreciation.'"[34] For McLuhan, specialization was the result of print technology, as was the "consumer-oriented culture that is concerned about authors and labels of authenticity."[35] The new electronic media demand "a high degree of producer-orientation," and this brings about "an altogether new relation of the medium to its users."[36] This new relation is one of "participation." The role of the artist, and the experimental work of art, is to offer training in perception that will allow us to cope with our media environments. But even this role is in part made obsolete by technology:

> Today technologies and their consequent environments succeed each other so rapidly that one environment makes us aware of the next. Technologies begin to perform the function of art in making us aware of the psychic and social consequences of technology.[37]

The notions of "participation" and "environment" are important aspects of McLuhan's discourse on the effects of electronic technology. For Glenn Gould, the aesthetic condition engendered by the technology of sound reproduction heralds the arrival of the listener as "participant" in the transformation of art into "environment."

VII

> The listener is able to indulge preferences and, through the electronic modifications with which he endows the listening experience, impose his own personality upon the work. As he does so, he transforms that work, and his relation to it, from an artistic to an environmental experience.[38]

Whereas the concert hall presents the listener with an experience over which s/he has no control, the modern hi-fi system allows the listener to subtlely modify the dynamic timbral and spatial balance of a musical recording. Gould felt that "Dial twiddling is in its limited way an interpretive act."

Since "The Prospects of Recording" appeared in print, there has been at least one musical recording which was designed specifically for the home listener-interpreter: the Nonesuch recording of HPSCHD, by John Cage and Lejaren Hiller. Parts of the sound material of this computer-assisted composition were recorded in one channel only (left or right) and the other parts in both channels. By using the balance control on his stereo the listener can vary the density and spatial orientation of the sounds. Included in the album is a computer print-out which is "one of 10,000 different numbered solutions of the program KNOBS. It enables the listener who follows its instructions to become a performer of this recording."[39] This constitutes one example of what McLuhan might have envisioned when he stated that the consumer is "invited by new art forms to become participant in the art process itself."[40]

Such listener involvement is indeed "limited" and Gould predicted that new devices would soon become available that would greatly alter the nature of home listening. One such device would enable the listener to edit together sections of recordings of the same work made by different artists in such a way as to "permit him to create his own ideal performance." Here Gould revealed his willingness to share with the listener the option of the "post-taping afterthought," even though it enables him/her to violate the integrity of Gould's own "ideal" interpretation.

Gould's perception of what is technically possible is not balanced by a corresponding perception of the economic imperative embodied in technology. Just as electronic and computer developments in the regulation of the combustion engine have made the amateur mechanic obsolete, so has the invention of the cassette tape and the lazer disc (technologies that limit hands-on manipulation of the product) made it less likely that the home listener will realize his full potential as "participant."

VIII

> The telephone: speech without walls.
> The phonograph: music hall without walls.
> The photograph: museum without walls.
> The electric light: space without walls.
> The movie, radio and TV: classroom without walls.[41]

The listener-participant has another prerogative not previously available to him in the concert hall, that of choosing his listening program according to his own tastes. The recording industry has responded by making available to the listener a vast collection of the muscial traditions of the world. "Music becomes plural."[42] Gould believed we are on the way to a

new "stylistic mix" similar in effect to that engendered by art reproductions and described by André Malraux in, Voices of Silence. Malraux's expression, "museum without walls," was also a favorite with McLuhan who went on to state that the phonograph had broken down the old class distinctions of music: "Everybody lost his inhibitions about 'highbrow,' and the serious people lost their qualms about popular music and culture."[43] But this has little to do with McLuhan's claim for the "in depth" experience of "process" over "content." It has more to do with the decontextualized nature of media experience in which listeners, safe in the privacy of their homes, do not have to physically confront social and cultural differences.

Gould continues this argument in favor of the stylistic mix by describing Muzak as "an encyclopedia of experience, an exhaustive compilation of the clichés of post-Renaissance music."[44] Gould claimed that Muzak educates the listener more effectively than any music appreciation course precisely because of its character as an "environment." Furthermore:

> The cliché residue of all the idioms employed in background becomes an intuitive part of our musical vocabulary. Consequently, in order to gain our attention any musical experience must be of a quite exceptional nature.[45]
> (Gould's emphasis)

Here Gould's argument is essentially the same as McLuhan's - "The medium is the message." A concern with "content" merely obscures the influence media has over us as an "environment." However, Gould is inconsistent when he implies that there is a difference between a musical experience and the experience of background sound.

Given this inconsistency, one must ask whether there is a point when the musical experience will cease to gain our attention at all; whether an intuitive musical vocabulary made up of a residue of clichés is not a vocabulary drained of all meaning, a system of "signs" that have lost all signification. As Adorno and Horkheimer have suggested, music that has become merely "style" cannot point towards any social or aesthetic meaning. It can only point to itself as a commodity; "Today every monster close-up of a star is an advertisement for her name, and every hit song a plug for its tune."[46] Music video, which is currently the culture industry's most intense form of self-promoting commodity, stands at the nexus of musical and visual cliché.

Even if Gould's argument concerning the musical cliché is a valid one, the phenomenon of background sound is not simply

a musical affair. Sounds, especially loud sounds, tend to dominate the space in which they occur and have often been used as symbols of power. Canadian composer, R. Murray Schafer tells us that "the hunter's horn lays claim to the forest...the church bell to the parish."[47] Elsewhere, in describing the great machine noises that accompanied the industrial revolution, Schafer notes, "Wherever noise is granted immunity from human intervention, there will be found a seat of power."[48] Muzak then, does not represent a form of musical expression so much as an expression of power, of corporate ownership of space. McLuhan recognized this fact when he stated, "Owners are aware of the media as power, and they know that this power has little to do with 'content' ..."[49]

In this respect, the familiar urban sound of the "ghetto blaster" is perhaps a form of aural graffiti which defies the corporation's sole claim over the sonic environment. It stakes out a personal, self-indulgent space for its owner. But the music emitted by the ghetto blaster is more often than not the product of the culture industry itself and it betrays the impotence of the owner's gesture. For lacking a voice of his own, he ends up reinforcing the corporate sphere of power over himself and the environment.

For the more discreet, there is the Sony "Walkman." With the "Walkman" the listener is invited to indulge in a private acoustic space completely detached from the immediate surroundings. Ownership fo the acoustic space is still an important factor as Schafer points out: "messages received on earphones are always private property."[50] Paradoxically, while the "Walkman" offers a sense of personal detachment, it also supplies an umbilical cord connecting the individual directly to the culture industry.

The "Walkman" is an example of what McLuhan meant when he said that technology is "an extension of our own bodies and senses." Until we learn to recognize this we will continue "Leasing our eyes and ears and nerves to commercial interests." Gould's observation concerning the "cliché residue" which makes up the bulk of Muzak programs is perhaps an indication that we have already handed over "the common speech to a private corporation."[51]

IX

> There is a relationship of the sound to the various envelopes of space you're placing it in that adds immeasurably.[52]

If it can be said that sounds tend to dominate a given space, then it must also be said that our perception of sound is influenced by the acoustic space in which the sound occurs. Phonograph recordings often attempt to create an impression of the acoustical environment in which the recordings were originally made. However, a pair of stereo speakers can only create an illusion of three dimensional space. In this respect, Gould's use of the recording medium outlined earlier was anti-illusionistic. He rejected any attempt to recreate the concert hall sound in favor of a close, analytical perspective on the sound of the musical instrument itself.

During the early 70's, Gould began to experiment with a new technique of recording music which gives some indication of how far his thoughts concerning the medium had evolved since the publication of "The Prospects of Recording." Briefly, the technique consists of making a recording with eight microphones (each recorded on a separate track of a multi-track recorder). The mikes are grouped in pairs and are positioned at varying distances from the piano such that each pair presents the listener with a slightly different perspective on the instrument. Later, the eight-track tape is mixed down to normal stereo but, in the process, Gould is able to "choreograph" the various perspectives according to what he feels are the demands of the musical score.[53]

Gould only used the technique to record certain late Romantic repertoire, such as works by Scriabin and Sibelius, works which contain highly coloristic effects. Gould described his technique of "multiple perspectives" in cinematic terms: zooms, long shots, tight shots, dissolves, jump cuts, etc. I would suggest that a more appropriate term for this technique might be "mobile perspective," for in the final, choreographed mix, one is not struck so much by the multiplicity of perspectives as by the impression of "mobility" from one perspective to the next.

The technique was completely in keeping with Gould's predilection for the analytical capabilities of the recording medium. He did not attempt to recreate the acoustics of the original recording environment (although the technique does rely on those acoustics to a large degree). Instead he created a spatial interpretation of the score which, in its every nuance, complements the interpretation that he had created at the piano itself. The multiple perspectives merge into a single spatial continuum in which the listener acquires a fluidly mobile perspective on the musical object.

The spatial overlay perhaps constitutes another example of McLuhan's "labyrinth" structure as the model of human

cognition. As with the "post-taping afterthought," Gould used the technique of multiple perspectives as a means of "retracing" the poetic process of musical interpretation. In his radio documentary, The Latecomers, Gould occasionally moved voices across the stereo field as a means of emphasizing certain thematic relationships between the characters. Thus, it would appear that Gould, in both his musical recordings and his radio documentaries, regarded the spatial aspects of recorded sound as a cognitive "labyrinth" of perception.

Only in pop music recordings are the spatial aspects of sound manipulated to such a degree. For example, each instrument in a pop music recording is usually recorded using only extremely close miking techniques. Each instrument is recorded on a separate track and differing amounts of artificial reverberation is added to each track during the mixdown to stereo. The bass drum sound will usually have little or no reverberation added to it while the snare drum may be made to sound as if it had been played in a cavernous acoustical space.

Pop music recording techniques have become relatively standardized and seldom have any integral relationship with the music being recorded. Whereas Gould had attempted to develop a technique that would serve the purposes of musical expression, pop recording practices transform the music in order to meet the demands of a technological process. The multiple acoustic spaces of the pop music recording do not merge; they remain on essentially separate acoustical planes. The resulting image is one of an extremely fragmented space.

The recording techniques explored by Glenn Gould and the recording practices of popular music both create what McLuhan described as a "cubist" perspective: "the acceptance of multiple facets and planes in a single experience."[54] The paradox embodied in pop music recording is that while the artificially enhanced beat of the music exhorts the listener to move, to dance, there exists virtually no acoustical space in which the listener can achieve any sense of mobility; s/he is, as it were, caught between the "multiple facets and planes."

X

> I (Littler) referred earlier to the notion of isolation as a liturgical Canadian theme, which in a sense makes Gould's preoccupation with it a validation of his citizenship. He was, in fact, quite at home in the country that Canadian hoboes familiarly refer to as Big Lonely...[55]

If there is some notion of isolation which is indeed a "Canadian theme," then Glenn Gould, through his life and work, has enriched its tradition. It was through his self-imposed isolation that Gould was able to pursue his most creative impulses with such intensity. According to Gould himself, almost all his major radio documentaries dealt with the themes of isolation and solitude in some way, several taking place in remote, uniquely Canadian settings.

Similarly, if there is a distinctly "Canadian discourse"[56] on technology, then Glenn Gould, through his numerous writings and his innovative approach to the recording medium, deserves his place, along with McLuhan and others, on that side of the discourse which privileges the creative moment implicit in new technologies. Gould is a prime example of McLuhan's artist "who grasps the implications of his actions and of new knowledge in his own time. He is the man of integral awareness."[57]

But, as pointed out earlier, Gould also shared some of the failings of McLuhan's side of the discourse. For while isolation and the use of technology may contain potential for integral creative awareness, it would almost seem that the same combination does not contain an equal potential for an integrated political awareness.

Be that as it may, Gould has left behind a vast legacy of highly original, creative work: including some of the finest recordings of music every produced, a number of innovative radio documentaries, several films and television programs, and many provocative articles and essays. While his musical tastes were by no means those of the avant-garde, his thought touched upon some of the most important themes of avant-garde art and music since the Second World War: the use of technology as an integral part of the creative process; the breakdown of the specialized roles of the composer, performer and audience; the notion of anonymous creative work and the destruction of the work of "art"; the realization of the musical potential embodied in the spoken word; and the exploration of the spatial aspects of sound.

Glenn Gould was much more than "a mere top-ranking piano virtuoso."

NOTES

1. Geoffrey Payzant, Glenn Gould, Music & Mind, 2nd ed., Toronto: Key Porter Books, 1984, p. 146.

2. Gould appears to have been aware of the degree to which some of his ideas resembled those of McLuhan and, at times, would mention his name simply as a way of dismissing him as a possible influence, or so it would seem:
   "I think that much of the new music has a lot to do with (and I don't mean to sound like that chap, Marshall something-or-other) the spoken word."
   -(Curtis Davis, reprinted in Variations, p. 280).
   The same passage appears in Payzant's book as follows:
   "I think that much of the new music has a lot to do with the spoken word..." (p. 130).

3. Jonathan Cott, Conversations with Glenn Gould, Boston: Little, Brown & Company, 1984, p. 103.

4. Tim Page, "Interview with Glenn Gould," Piano Quarterly, 29 (Fall 1981), p. 20.

5. Payzant, Music & Mind, p. 36.

6. Cott, Conversations, p. 103.

7. Richard Kostelanetz, "Glenn Gould: Bach in the Electronic Age", reprinted in Glenn Gould Variations, ed. John McGreevy, Toronto: Doubleday Canada Limited, 1983, p. 127.

8. Cott, op. cit., p. 39.

9. Marshall McLuhan, The Gutenberg Galaxy, Toronto: University of Toronto Press, 1962, p. 111.

10. Glenn Gould, "The Prospects of Recording", High Fidelity, 16 (April 1966), p. 47.

11. Thomas Hathaway, "Glenn Gould: A Legacy of Leavings", High Fidelity, (April 1985), p. 71.

12. Marshall McLuhan, Understanding Media, New York: New American Library, Mentor Books, 1964, p. 246.

13. For a thorough, historical examination of the relationship between music and capitalist modes of production and consumption see: Jacques Attali, Bruits, essai sur l'économie politique de la musique, Paris: Presses Universitaires de France, 1977.

14. Glenn Gould, "Glenn Gould interviews Glenn Gould about Glenn Gould", High Fidelity, 24 (Feb. 1974), p. 74.

15. Edward Said, "The Music Itself:Glenn Gould's Contrapuntal Vision", reprinted in Variations, p. 52.

16. Glenn Gould, "Music and Technology," reprinted in The Glenn Gould Reader, ed. Tim Page, Toronto: Lester & Orpen Dennys Limited, 1964, p. 355.

17. Arthur Kroker, Technology and the Canadian Mind, Montreal: New World Perspectives, 1984, p. 79.

18. Glenn Gould, "Stokowski in Six Scenes", reprinted in Variations, p. 160.

19. Glenn Gould, "The Prospects of Recording", High Fidelity, 16 (April 1966), p. 48.

20. Marshall McLuhan, Understanding Media, New York: New American Library, Mentor Books, 1964, p. 247.

21. Gould, "Prospects", p. 48.

22. Ibid., p. 58.

23. McLuhan, Understanding Media, p. 248.

24. Gould, "Prospects", p. 50.

25. Ibid., p. 50.

26. Ibid., p. 51.

27. Ibid., p. 53.

28. Marshall McLuhan, "Sight, Sound, and the Fury", from Mass Culture: The Popular Arts in America, ed. B. Rosenberg & D. Manning White, Toronto: Collier-Macmillan Canada, 1957, p. 493.

29. Marshall McLuhan, "Joyce Aquinas, and the Poetic Process", Renascence, IV 1 Autumn (1951), p. 3.

30. Ibid., p. 5.

31. Ibid., p. 8.

32. Payzant, Music & Mind, p. 131.

33. Gould, "Prospects", p. 56.

34. McLuhan, Understanding Media, p. 71.

35. McLuhan, The Gutenberg Galaxy, p. 161.

36. McLuhan, Understanding Media, p. 174-175.

37. Ibid., introduction to the second edition, p. ix.

38. Gould, "The Prospects of Recording", p. 59.

39. Album linear notes, John Cage & Lejaren Hiller HPSCHD, Nonesuch H-71224.

40. McLuhan, Gutenberg Galaxy, p. 328.

41. McLuhan, Understanding Media, p. 248.

42. Marshall McLuhan, in an interview with Glenn Gould for "The Prospects of Recording", p. 60.

43. McLuhan, Understanding Media, p. 247.

44. Gould, "Prospects", p. 61.

45. Ibid., p. 62.

46. Theodor Adorono, and Max Horkheimer, "The Culture Industry: Enlightenment as Mass Deception", in Mass Communication and Society, p. 381.

47. R. Murray Schafer, The Tuning of the World, New York: Alfred A. Knopf, Inc., 1977, p. 39.

48. Ibid., p. 76.

49. McLuhan, Understanding Media, p. 60.

50. Schafer, The Tuning of the World, p. 118.

51. McLuhan, Understanding Media, p. 73.

52. Jim Aitkin, "Interview with Glenn Gould", Contemprary Keyboard, 6, no. 8 (August 1980), p. 36.

53. The most detailed account of the "multiple perspective" technique appears in Jonathan Cott, Conversations with Glenn Gould. A shorter description appears in Jim Aitkin's interview for Contemporary Keyboard and in Curtis Davis' article in Variations.

    A sequence in which Gould is shown directing a mixing of a "multiple perspective" recording (music by Scriabin) appears in "Sound or Unsound" #8 of the Music of Man series, Yehudi Menuhin, C.B.C. & NFB, 1979.

54. McLuhan, Understanding Media, p. 247.

55. William Littler, "The Quest for Solitude", reprinted in Variations, p. 222.

56. Kroker, introduction to Technology and the Canadian Mind, pp. 7-19.

57. McLuhan, Understanding Media, p. 71.

FIRST REFLEXIONS ON THE FORGOTTEN HIGH TECHNOLOGIES: READING AND WRITING

by Denis Diniacopoulos

Foreword

1 The purpose of this preface is to introduce the reader to a "point of view". It does not have to be new. It has only to be different from today's fashionable trends. It must be fertile in new insights and applications. This is what is required from fundamental research. The following text is fundamental research.

2 Today's fashionable trends proceed from forgotten points of view. Only the trend, the "figure", is left. Its "ground", "the point of view", has vanished from public awareness.

3 For the purpose of establishing a ground this text will describe an "environment" rather than to develop "logically" a thesis. Once completed it will nevertheless appear logical. Such is the power of familiar "points of view", the "grounds", in determining what is logical and what is not.

4 For years, I have been interested by everything displaying a "visual" element. And for years I have been researching the foundation of the phenomenon of "vision". After much work, or more precisely after much "directed thinking", a certain number of elements sprang to my awareness coming from various fields, until the time that search reached the domain of the brain's own mechanisms. By asking friends and colleagues what book they would recommend, Marshall McLuhan, Barrington Nevitt, and many others answered Man's Presumptuous Brain by A.T.W. Simeons, M.D. [1]

5 Simeons, a practicing doctor in medicine, followed the direction of Darwin's thinking, and applied the reasoning of "Evolution" to his observations. He founded his proceedings on the fact that "Evolution" took at first a disproportionately long time, to develop "beings" up to the primates, and then, arriving at the level of the homo-sapiens, developed at an ever increasing speed through what followed biology - "Culture".

6 This line of thought has been followed by many researchers since Simeons, but he is the one who not only had the original idea to make "the era of Culture" follow chronologically "the era of Biology" but also he has used his practice of medicine to illustrate how the new developing force "Culture", requires from the body performances that "Biology" cannot supply now because it did not have the necessary period of time to develop organisms with such additional sophisticated specifications. [2]

7 Actually biology developed organisms that can survive because they are successfully adapted to the environment, and that environment is also made up of all the other species. [3]

8 However, the new environment created by the proliferation of human beings, at the detriment of all other forms of life, protects human beings, and a number of animal and vegetable species, from the direct impact of "Nature", and consequently from the selective process of "Evolution" that it replaces by "culture " and "Culture". [4]

9 Simeons stressed the point that biology developed the body of the primates, and so too their senses, for immediate survival, and for procreation to achieve the task of long term survival, as biology has always proceeded with all animal or vegetable species. This also implies that biology did not develop the human body and its senses exclusively for "Cultural" stimuli. This reasoning was already in the making by Pavlov when he developed his idea of "Conditioned Reflexes".

10 Pavlov's idea was, in effect the pairing of a "Cultural" stimulus with a direct biological "reflex".

11 Pavlov and Simeons, these two giants in the domain, complemented each other. Pavlov produced the first laboratory experiments. Simeons extended the observations to human beings of both sexes, all ages, in many parts of the world, during his life long period of medical practice.

12 The inventory of all the diseases that can be initiated by the misuse of the human body, is sufficiently convincing, to propose the idea that, actually, the diencephalon, or the last successful brain before ours, is still in command of our unconscious mechanisms, such as, for example our perceptions. And this, always, for the purpose of securing the integrity of the biological being. (see Note 3)

13 The following text develops the idea that, among the off-springs of "Culture", vision proceeds from the pairing of blunt biological reflexes for survival, with "coded cues"/"stimuli" from the newly developed "Cultural" environment. 5 & 6

FIRST REFLEXIONS

1 Let us imagine a boy, between four and six years old. He lives with his father and mother, actually more with his mother than his father, as is usually the case in small towns.

2 During the day when his father is with the other men, the child, alone with his mother, imagines that he is an adventurous boy.

3 The mother knows better than to ask the adventurer to stay put indoors at home. So she commission him to go and get fresh bread, the newspaper, milk; only important and arduous tasks.

4 The town is small, so small, that the new highway passes at a distance and the old highway never went through it. Townspeople walk in the streets, while daring kids ride little red wagons.

5 For some years now, the little boy has been collecting precious things. This began very seriously with a half empty toothpaste tube, quickly replaced by the mother with a number of colourful, empty, ice cube containers. Indeed, they could be stacked or deployed and were much more interesting than the squeezing of the mushy, half empty, toothpaste tube.

6 Little by little, the child enlarged and updated his collection. On rainy days, he would spend hours, spreading, and arranging and re-arranging these precious meaningful "things". Because they are precious, or because they have a meaning, the child sets them in an order according to temporary hierarchies of values and these sets are for a moment meaningful to him.

7 When the weather allows, our little discoverer travels all by himself inside a giant set of "things", the town, and he continues to attribute values and meanings to these "things". However, there is a difference between his discoveries at home, on rainy days, and his exploration on the town sidewalks. The difference is that he cannot re-arrange the environment of the town as he does with his "sets".

8 By now the little boy knows his whereabouts in the town. He recognizes the big tree at the far end of the street, the perpetually broken fence of the house in front of which a terrifying dog awaits passers by, extorting from them his daily share of their own fright.

9 The little boy is so sure of his way around town that he can manage to pass in front of the store with the little red wagon in the window, then, rush to buy the newspaper, and be back home without a moment of undue delay.

10 It is through these abstract sequences that the little explorer discovers new parts of town, attributing to every geographical accident (municipal accident) a name, a meaning, a value, which hides promises of safe faring, or, on the contrary, threats of nasty encounters with ogres and saber-toothed dogs. In just the same spirit, the Cape of Good Hope and the Pacific Ocean were named.

11 So, any journey outside is actually a pilgrimage, making the child recollect values and meanings. It is through these "ceremonies" that the little boy finds his way from home and back to it.

12 Indeed, the little boy is very competent in finding his way to and from any place in town, just by looking at the "sequence" of cracks in the sidewalks, the length and colour of fences, and the diameter of the tree trunks.

13 Then one day at school, the boy learns to "read" and like all children, he stops in front of anything carrying "letters" to read them. This is how he discovered that his street is "Franklin Street", although nobody is called Franklin on his street. He knows because he patiently inquired last week. And so it goes for the street where he saw the show window of the store with the little red wagon "inconsequentially" named "Union Street". Again, nobody is called "Union" on that street. And what about the street where he buys the newspaper, which for him was rightfully "Newspaper Street". It is called "Florence Nightingale Street". Of course, there is nobody by that name there either.

14 Our little discoverer is puzzled; he knew how to recognize the visual elements of reference (colour, shape, sizes)* and their place in the actual set. He could go to different places and come back, just by reading these. But, now, when he "reads" the "phonetic alphabet" something else appears and seems to have no connection whatsoever with the reality he knows.

15 This "something else" is a learned system carrying values and meanings accessible only to the initiated. Actually this "something else" is a "code", a huge one, it carries "in code" all the past history of mankind. Also, as situations happen, this code is modified everyday, or updated in parts by the users, with an always varying ratio between consciousness and unconsciousness. This "code", this "something else", is CULTURE.

* More precisely: boundaries between areas of different colours, sizes, and shapes.

16 The little boy will have to go to school for many years before becoming fluent in CULTURE, he will learn it from courses and from social interaction inside and outside the school.

17 However in recognizing the "sequence" of the visual elements of reference, this little boy actually performs the operations of "reading". He reads his way in town like others read their way in forests and like many animals can read their way wherever they are.

18 The process of reading seems to suggest the following sequence of operations:

The involvement of an agent with an object, linking the agent to the object by the agent's very act of choice for the object. This act of choice is also considered to be a judgement made by the agent about the object. Hence, the inevitability of the presence of values in meanings. The act of reading actually necessitates the differenciation of elements from a seemingly continuous environment. The selection of these elements, and their arrangement in sets constitutes the meaning for the involved agent. Based on these fundamental mechanisms, reading becomes parallel to understanding speech when listening.

19 A child learns quickly and naturally to put together and to read sequences of visual phenomena of reference. This allows him, among other things, to find his way.

20 In contrast, it is with great difficulty that a child learns to read a text written in the phonetic alphabet. Furthermore this necessitates training by adults, themselves specifically trained for the task.

21 On the other hand, the same child can spontaneously read the sequences of visual phenomena of reference presented by television.

22 When a child, or anyone for that matter, puts together sequences of visual phenomena of reference, arranges them and reads them, he can vary these sequences at his whim on his way, as did our boy on his adventures through the town. The reader of a text written in the phonetic alphabet can choose either to follow exactly the convention of reading from left to right, letter by letter, syllable by syllable, word by word, sentence by sentence, page by page, or to read one or two words here and there, re-read a more interesting passage or skip haphazardly through the book.

23 An analogy can be made between someone taking a walk through a town and someone making his way through the symbolic environment of a literary text.

24 In the case of someone watching TV, or Cinema, the analogy does not hold at all. With TV, there is no longer the freedom to choose the visual elements of reference, to arrange the sequences, relax the pace, or to go back on one's path. The viewer is immobile, often unconfortable, caught fast like a piece of metal between the jaws of a milling machine, while the power tool of television pours out its irreversible flow of ready made visual illusions. Still, the same eyes, the same brain, and the same life surviving processes scan and read the screen as they were scanning and reading the environment in childhood.

25 It is common these days in commercial establishments to see employees whose sole function is to operate the company's computer, while the owner of the business, the manager, the clerks and the salesmen continue to conduct business in the traditional way that existed before the introduction of the computer.

26 So it was in the past, kings, literate and illiterate, had secretaries, and Pharaos scribes.

27 The invention of writing and later of the phonetic alphabet gave birth to an entirely new social class whose members could write or read texts. They were not only the sole producers but also the only readers of the texts. This situation persisted in Europe well into the XIX century with the figure of the letter writer, and survives even to this day in the role of the notary, the lawyer, and the accountant.

28 In ancient times, of those who could read and write it is likely that some would read more than they wrote. These would have been the ones who had access to papyri, scrolls, or books. However, we must take into account the fact that even when books were produced in "great numbers", like the original they still had to be written by hand. Slaves trained as scribes would simultaneously write a dictated text. The number of these would be limited.

29 It was not until the XV century with the advent of "Print" that this process was changed and then, radically accelerated when the steam engine, with all its power, was used to drive the printing press and the transport machine - the railroad.

30 Industrial society and the consequent appearance of consumerism, brought about the improvement of commerce and developed methods of distribution making books more available to the public. At the same time, industrial cities of the XIX century underwent a population explosion. All these things contributed to the increase in the number of people who were able to read.

31 From the XIX century onwards the number of readers increased tremendously. The originally existing balance between the number of readers and the number of writers was broken.

32 Then in 1940, came Television. Watching television does not require as a prerequisite the learning of any spoken language as does listening to radio. Nor does it require training in reading " in " the phonetic alphabet as reading a book does. In fact television dispenses with reading and writing and renders them out of fashion.

33 The most recent statistics on illiteracy, even at the university level testifies to this situation.

34 It is amusing and rather significant to note that it is the military that possesses the most complete statistics on this subject. Indeed, more and more young recruits are unable to read manuals or instructions written in the phonetic alphabet. Yet these same young enlisted men all know how to watch television. More to the point, everybody, without formal training of any kind, knows how to watch television.

35 In other words, human beings have a natural aptitude for reading texts written in non-phonetic writing and this natural aptitude exists prior to any acquisition of the skills necessary for reading texts written in the phonetic alphabet.

36 This natural aptitude in humans, overlooked throughout a period that was dominated almost exclusively by the phonetic alphabet, has re-emerged unexpectedly with all its primitive force, in the medium of television.

37 All plants know how to recognize light and will grow in the direction of a light source in order to survive.

38 In the animal world, vision permits the rapid movement essential to the survival of both prey and predator.

39 In the course of evolution, human beings have been in turn prey and predator and over this long period the visual sense, above all other early-warning senses, became dominant in the process of ensuring survival.

40 Sight has played such an important role in protecting the integrity of biological entity by giving advance warning, that still today signals received by the eyes are first interpreted for survival. These signals - the visual phenomena of reference have been used from immemorial times in pictography, and since the XIX century in photography then cinema and now television.

41 The vivid character of endlessly moving television images and the editing of the sequences involve the viewer as if he/she were personally at risk. So even unwillingly the interest of the viewer is very great.

42 This unconscious but actual involvement at the level of survival is to be compared with the situation in which the same eyes and central nervous system of the same human being, look leisurely at the familiar shape of the phonetic alphabet characters and put them together to obtain some meaning according to a specifically learned system, a culture.

43 Right from birth, human beings develop the habit of using the sequence of events through time, even though they may not understand its nature. That fact of the human condition which manifests itself with the sequence of events through time is imposed by the environment. Later, the child develops an understanding of the sequence through space. That is, he knows from experience that at time t_1 he will find himself at a place p_1 and that upon moving, he will find himself at a place p_2 at time t_2. By continuing this process, human beings know that to go from one place to another, walking for instance, they just read, or re-read a sequence of reference phenomena. If one uses the visual sense to read these reference phenomena, then consequently, these phenomena must be of a visual nature, such as the colour of a tree trunk, the profile of a rocky hill, the bend in a path... What is so remarkable is that human beings can also learn to reverse the original sequences in order to return to their initial starting point.

44 This chosen sequence of perceptions can, with repeated use, function automatically, that is, as an autonomous element that can be arranged with other elements the way we arrange sentences in a written text, words in a written sentence and in the 20th century, the shots in a film sequence, an operation which is called editing.

45 The reading of texts written in phonetic alphabet requires first of all, as with all other types of reading, a familiarity with the sequence.

46 A sequence has meaning for the person who assembles it or for whoever is able to re-assemble it. Accordingly, one could say that a text written in phonetic alphabet is a set of pre-fabricated elements (words), pre-arranged (grammatically) in such a way that the user can re-assemble the prototype and establish its meaning, (read).

47 This conception introduces the notion of the sequence of elements as fundamental to any grammar.

48 In television the grammar or its foundation, the law of sequence, is quite straightforward. The past is gone, the present is present, the future is to come - which means that it is the absolute proximity that determines the flow of events. This is why pursuits on television, or in cinema, are so omnipresent. The rest in television is mostly improved radio. The visual image helps to describe extremely quickly the environment and the situation. The dialogue directs the action as in radio, with the added bonus of a better identification of the characters which can now be recognized not only by the tone of their voices, but also by their appearance.

49 It is conceivable that instead of using the visual sense one could use the aural sense and, consequently, read sequences of aural phenomena of reference. Actually, very long before Cinema and Television, human beings have known how to put together sequences of aural phenomena of reference in singing, making music and speech. Indeed, parallel to the sudden and forceful change brought by the Cinema/Television phenomenon there is today a Record/Radio revolution that suddenly flooded the life of human beings with Music, Sound, Noise. Although less visually obvious (arousing awareness), this change is much more important than the visual invasion by Television, because one cannot even blink one's ears.

NOTES

1. A.T.W. Simeons, M.D. Man's Presumptuous Brain. (New York: E.P. Dutton, 1960).

2. Jung, Carl Gustave. Symbols of Transformation. Second edition. Volume Five. Chapter II. Bollingen Series XX. (Princeton, New Jersey: Princeton University Press, 1956), pp. 7-33.

3. Evolution proceeds by adding new elements to already existing successful elements and adds permanently these new elements if, in turn, they are successful.

4. "culture" meaning systematic deforestation for the purpose of an ever growing domestication of plants and animals. And "Culture" meaning the systematic "deforestation" of the primeval human psyche for an ever growing domestication of impulses and feelings, accompanied by the implantation of former human means of expression. These implantations are necessary because genes do not transport "Culture". It has to be transmitted "artificially".

5. The term "off-spring of culture" means here the most developed primates: the human beings.

6. The word stimulus means two different things according to the place from which it originates: a) the domain of the physical universe in process for six billion years or more, which is also the domain of "Evolution", and b) the domain of "Culture" which is evaluated today at about one million years and which is assumed to be only a "human" phenomenon.

VISIONS

Photograph by Cyril Ryan

ON THE THRESHOLD OF METAPHYSICS: DO YOU KNOW THIS PHOTOGRAPH?

by John Buell

The epistemology of The Photograph is serious business. It has gone from the naive fun of the uninitiated masses, especially at the movies ("The camera-man will save her."), to the philosophical brooding of Susan Sontag (On Photography) and Roland Barthes (Camera Lucida) from which works, I must admit, the uninitiated masses would derive no fun at all. Both the fun and the philosophizing reveal how widespread the business is. It includes the grisly pictures of the Scene of the Crime (the ultimate seriousness, one would think, and yet in the Public Press how diverting), the sentimentally innocent laughter at a Chaplin film, and the solemn and unintentionally comic usages of pornography. All rest on the epistemological quality of The Photograph (or The Film), which includes the epistemic weight of Fantasy (a real test for any theory of knowledge).

We seem to have accepted the idea that the Camera is more accurate, more authoritative, more epistemic than the human eye (eyes, really) or human perception or human witness. And there is no denying that at a certain level and in certain activities and situations, this is certainly true. It is felt, however, as generally true. It is axiomatic today that (despite the implied derogation of the human person) The Photograph is more reliable than human testimony and more exact than human memory. Actually The Photograph is less complex, less independent, more contigent, and more material. And that complicates the matter.

The Photograph is both Science and Magic. It captures us (or events, but we feel it as "us") in a way that has the epistemological advantages of the scientific method: objectivity, repeatability, verification, predictability (a given set of conditions will yield a picture), formulability, and mathematicization, and at the same time in a way that has all the bogeys of voodoo: a sudden and unwelcome self-consciousness, action at a distance (a sort of ESP), capture and manipulation of one's identity, chidlike conformity (stand here, a little to the left, smile), and a miserable immortality. This combination of Absolute Certainty and Panic Fear is too much even for our vanity; the psyche has to do something. We learn early to interiorize the medium, to behave in a photographable way anyway, to prepare a face to meet the lenses we might meet, to look right, dress right, smile right, walk right, talk right (if it's film or TV), and to appear to concede the right of the New Vandals to wield cameras instead of swords.

It's a complex state of mind. It's as though the content of Photography were Other People, and one cannot be Another Person; but one becomes other and out there when one is photographed. Photography's fine if it's committed on you, but not on me. Yet we, as I's, cannot escape it. We even inflict it on the you's. It has become Big Business, which means it's part of the culture. If it's a problem, it hasn't been noticed.

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The picture, to give it a generic name, has become a sort of arbiter of the real. It acts as a norm to be met, a criterion to judge things by, an idealization into which to transform ourselves. A bad picture, published, is like a thousand curses. We have an environment of pictures. They are everywhere: on billboards, in displays in every store, on buses, in the metro, on album covers, book jackets, in newspapers, magazines, on calendars, in handouts, junk mail, catalogues, at the movies, and (greatly altered) on television.

The picture is record, archive, dream, fantasy, rhetoric, certification, ideal, norm. It is normative as evidence (we were there), as representation (that's him), as achieved appearance (that's not a good picture of me), as the desirable (I wish she looked like that), as proof of validity (that's me). The most normative use is official use (in passports, passes, ID, etc.) where at its most epistemic the photography is at its worst and, to vary a remark by Barthes, makes all citizens look like criminals.

The picture exists also as an enormous amateur or home market in prints and slides, home movies, home video, where picture-taking is imagined to be a registration of event and a confirmation of existence. But these are strangely disappointing compared to the stuff out there and serve as norms by default, as when someone says of a slide, "That could be in National Geographic." It could be. But the fact is, it isn't and never will be. And we should add, not to leave the total picture incomplete, our ubiquitous use of mirrors and what might be called picture pass-offs: paintings, drawings, cartoons, diagrams. The picture, in short, is pervasive. An environment. But a funny one. Not an environment of things like trees, or pillars, or houses or streets, but of pictures of things, of pictures as things, largely unnoticed, meant to present other things, i.e., the content, to be noticed.

In this mass of pictures few are photographs, and of course few are experienced as photographs. We, as general public, rarely see a professional photograph, say an 8 X 10 glossy print of a scene at a specific event with no words accompanying it, fresh from the trays in the photographer's dark room. What we normally see is the photograph transformed into printed form, usually with printed text, and in a definite context: newspaper, magazine, brochure, catalogue, billboard. An art exhibit might give us a real professional photograph without words attached to it. Advertising gives us an independent printed form that doesn't find it necessary to identify the content (places, people) but only the product. The only other area I can think of that is like an art exhibit and like advertising in not identifying things is the private album.

That is a consumer form of automated snapshot not of public interest until tragedy or fame overtakes the subject. But it does reveal where the norm lies (probably in magazines) and how urgent is the technological obligation to take pictures. Part of the fun is that one never knows how the pictures will turn out. Only the professional works at knowing how (and why) his photographs will be the way he wants them to be. That doesn't mean that the subject will appear real; it means that the subject will appear well - properly photographically. And that's when we start looking rather special to the general public but somewhat strange to those who see us every day.

The fact of having so many pictures (the environment), the fact of so many people taking so many pictures (the consumer technology), and the long time (at least since the 1830s) it has all been in place, has established a normative way of seeing in general. Or: it has established a self-conscious way of seeing that overshadows other ways of seeing. Things take on a special air once they are seen as photographable. More accurately - things are jolted into familiarity (reality?) when they are suddenly seen (re-cognized) as having been photographed. The creative photographer may see things as convertible into a good photograph; the rest of us usually recognize things as having been seen in a picture. The tourist takes the picture of things he's seen as pictures. Anything else remains in a sort of neutral background or lesser existence -- a perceptual limbo. Getting pictures out of that limbo can establish a new trend. Otherwise it remains unphotographed, unperceived, and, one dares to say, unknown. It is a short step in association (not in logic) to think that if a thing is unphotographable it is unknowable; and that if it is unknowable, it cannot exist. The man talking about a hitherto undiscovered tribe had better have pictures.

The Photograph (and the derivatives which we take for photos - the print-made pictures) has become <u>the exemplar</u> of things...the epistemic authority. To know at all is to know somehow <u>pictorially</u>. The best memory is the photographic memory. To have no memory of something is to have no <u>image</u> of it. The shift from using the word "picture" to using the word "image" is pure epistemology: picture is <u>out there</u>; image is <u>in here</u>. If "picture" is normative, "image" is what you perceive, and what you believe. So you can make pictures that will give the right image. You can set up assumed norms of knowledge (pictures) in order to ensure belief (images). A photo-opportunity is a belief-opportunity. If pictures are about reality, and images are about pictures, then images are a short-cut to reality. If you try to walk into the images in Plato's cave, you'll bang your head against the epistemic wall. A technological society suffers from epistemic headaches. To Arthur C. Clarke (<u>Profiles of the Future</u>) the eye is merely an inferior camera but the Artificial Intelligence people now know better.

An unquestioned environment is like Nature, for Nature is the environment beyond question, even though it is questionable in the sense of subject to inquiry and investigation. And an artificial environment (of technologies) functions like Nature, and even hides (real) Nature by allowing us to project our artificialities as real perceptions and to call that projection "nature." And, to make matters worse, since we (in our non-interfered-with totalities) are in fact part of Nature, our projected and believed-in artificialities also constitute our perceptions of ourselves. And (to pile on more problems) since these artificialities seem like the result of serious questioning and research (indeed of Science), they tend to be looked upon as truer and more final and more "real" than Nature (which according to the underlying mythology is evolving into betterment with our help), with the result that the artifical environment is perceived (images again) as unquestionable, a state that even Nature never claimed for herself. We have become the metaphors (but taken quite literally) of our technologies: our bodies are machines that get fuel and replaceable parts; we inhabit "machines to live in;" our cells are programmed and our brains are computers; society is cellular and the "family" is nuclear and we interact like electrons. All metaphors, and all taken as "hard" reality. Plato's cave has become a cosmos. Time to talk to the Emperor's tailor.

The camera, although it seems to be an infallible way of seeing, doesn't really "take" anything as an exact duplicate of what is actually seen. Rather it "makes" something out of it, and "makes" it in an automatic and automated way regardless of the intention of the photographer (or user, or consumer). It transforms what's out there into a very special thing, a thing which can never be encountered out there: namely, the photograph and its particular photographed content or subject. It is, like fantasy, simpler than reality.

In order to do its work at all, the camera requires a rectangular framing ("why not circular?") within which the picture will exist. This framing ipso facto reduces the field of vision and immediately insists on a proper placing of contents or subjects. In practice this is one-eyed looking through a viewfinder: angle, content, composition. Just this much is a big change from what's out there.

But there is another requirement that brings about an even greater change. It is this; what is framed has to be a flat surface. That seems harmless enough because we are used to it; the flat surface is ubiquitous in our technological environment. But it is rarely found in nature, never framed if found, and constitutes a basic artifact, something made by us. It means photographically that what is actually seen and out there will

be reduced from its three (possible four) dimensions to two: the geometric (flat) plane. And from the geometry of perspective we will read into the two-dimensional flat-surfaced picture an appearance of having a third dimension, a "depth" aided by light and shadow and size. Lenses will do this third-dimensioning automatically, different lenses providing different perspectives. What's out there has to be transformed in order to be in camera. And further, this can only be done from one angle or point of view (is the vanishing point in or out?), at one instant, for an instant, in a special set of colors (if that's the case), for a certain size of print (the final photograph) or screen (but I'm abstracting from movies and TV).

Frame, lenses, flat surface, fixed point of view transform the visible into the photographed. It is going from the actual to the geometric, from the real-and-existing to the ideational. It is more a materialization of a concept (geometry) than it is a rendition of the perceived. Is it short-cut or short change? The content of a photograph is minimally "real," but what there is of "content" is actual as filmic copy, a genuine mimetic of something that was visible.

One of our strongest epistemological assumptions, based on a visual metaphor, is that human knowing is a pictorial process. Our pictorial, and especially photographic, experience has predisposed us to assume that we have pictures and images in our heads. It is further assumed that what we know is precisely a picture or an image. (This is the technological parallel to an earlier theory that what we know is a concept.) And, in view of the foregoing brief but for my purpose adequate reference to what the camera does, I would wish to put forth the following thesis (which will sound like outright heresy), namely - that whatever else we may have in our heads when we know something, we don't have pictures. This may earn me the penality of sitting on a stool in the corner, but I see the Emperor in all his glory, and I'm still talking to his tailor.

(I hasten to explain that I am not engaging in philosophical smart-talk whose purpose is usually to cast doubt on the reality of things. I have no intention of casting doubt on anything; in fact, I am advocating much more reality than is assumed in the epistemics I am examining. I am positing that the photograph is a reality. I am asking, "What is it? What is real about it?" I am positing that the original subject taken by the photo is a reality. I am also saying that our knowledge of that subject and of its photograph is also a reality. I mean by that that the photo is not itself an illusion, the subject is not an illusion, and our knoweldge of these is not illusory.)

If we must assume that we have an "image" in our heads, then that "image" had to be quite UNLIKE the photographic image. What we have in our heads is not framed and cannot be framed, and if framed (per impossible) would have to be double-framed, for we see in a binocular and stereoscopic way. It derives from a total and unobstructed perception, not selectively as for framing pictures, but intentionally and attentionally in order to see what is there as it is. Hence it functions in all directions and for virtually all distances, so that special angles and points of view are not needed. It is comprehensive and particular (by intention and not by mechanical disposition); it works in time and virtually all the time; it is multi-sensist for it is coordinated with the other senses; it "understands" space without employing perspective, and it is of a contextually related size (a sort of ratio) that has nothing to do with reference to a frame. There is a lot more (dealing with the eye, light, focusing, the biology and "physics" of seeing) but I will add only one more characteristic. All this is done, the "images" in our heads are had, without any flat surface intervening in any way. The interior of the eyes is not flat, is not smooth (under magnification the rods and cones of the eyes look like a hair brush), does not make pictures, and is constantly changing according to what is being seen. Whatever is there is hardly worth calling an image.

Since there is no image (in the normal pictorial sense), then what we know when we are knowing something by vision is at least not an image. What we are aware of when we are knowing something is the object which we know to be there (a room, a road, the environment, whatever is there). We are certainly not aware of the eye(s), nor of the brain. The eye does not see its own content; the brain is not aware of its work or content. We can "summon" that knowledge (say of a person and where she lives) without "picturing" it. We can know when we are not summoning it, recalling it, and still know we do know it. And then we can know when we have summoned it, when we are in the state of knowing it consciously.

In this we can try, by conscious effort, to picture something, recall the very features of someone we know. It will be noticed that in this sort of recalling there is really no pictoriality. There is obviously something akin to an image - concrete details: or details referring to a real and actual person: blue eyes, small nose, a scar, full lips, and so on. But these do not emerge as pictures or images. We can in fact imagine them as a picture. We can imagine a photograph. It is like recalling or summoning a knowledge of seeing.

These are not images (in the strict sense) for the simple reason that there is no apparatus in the brain for making images. There is something, obviously: something that does the "work" and something that, as it were, issues from the work. It is something by means of which we know things, something by means of which we differentiate things, something capable of retaining knowledge of things and of using it at will. Whatever it is, this knowingness and its capacities are not reducible to undifferentiated microvolts or a limited range of microfrequencies. Compared to actual knowledge and its detail and complexity, the brain (as represented by impulses and graphs) is a jumble of unintelligibility and opacity. The question (what is it? how is it?) remains undiminished. It grows daily.

We can ask in view of the foregoing exploration: what is it we know when we know something via a photograph, a picture, an image?

Since one can explore a photograph only up to certain limits, and since one can explore a real thing indefinitely, it is clear that at best the photograph is a minimal sort of knowledge.

Since we are currently relying on images to the extent we do, it is clear that we are providing ourselves with vast quantities of a minimal sort of knowledge.

If, on the analogy of this examination of the photograph and its epistemology, we extend the question to include all communicational technologies, including the computer, and if technologies can provide only artifacted information, we will hardly be able to avoid questions about the sort of knowledge we think we have. We will have to discover the human mind. And that may be very untechnological.

VISUAL SPACE: EMPIRICAL RESEARCH IN TELEVISION Z-AXIS STAGING ✳

by Nikos Metallinos

The new visual communication media imagery such as video games digital television, and computerized pictures are capturing the attention of viewers of all ages and causing a real revolution in imagery while stressing contemporary man's ability to fully perceive and accurately recall visual information to its fullest extent. Some of the consequences of this boom in computerized video imagery are obvious, and some of their characteristics are easily identifiable. But many more remain hidden.

A noticeable cause of this revolution is the instant acceptance of visual display and images. Prior to the invention of computerized graphic designs, video game imagery and digital television effects, the length of time required to digest and comprehend visuals after perceiving them was fairly noticeable. Today heavy users of these new visual communication media can instantly read, evaluate and recall them, as can be attested by watching young people in any video arcade.

Another cause of the rapid growth of the new media imagery is the nature of their visual elements. The elements used to fill in the visual space are no longer those of everyday life in the real world. These new elements are small squares, plastic boxes, contours of the actual images. They all provide a novelty which attracts. People unquestionably accept them and easily adopt them, never challenging their aesthetic value.

An additional cause of people's fascination with the new media technology is the constant utilization of depth axis staging. The visual elements that comprise the image are often placed within the Z-axis, moving rapidly towards or away from the viewer, often vanishing from the screen or blasting towards the viewer unexpectedly. Sometimes, entire frames fly away, flip over or retreat towards the vanishing point.

This instantaneous acceptance of digital TV pictures, video game images and computerized graphic designs might not show any serious effects at a glance, but as Kuipers points out, such effects do exist. They are multidimensional, and the most common ones are physical and psychological.

These unreal cartoon type images could be one of the reasons young people are being driven further and further away from the reality of the physical world (Gardner and Soliday, 1974). It might be that such images are affecting their basic understanding of the dichotomy between the visual world and the visual field, and the unique properties assigned to each of them (Gibson, p. 164).

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The emphasis and persistance in the use of depth composition and extraordinary special effects, coupled with the unusually fast advance and retreat of visual space, have been found to have some negative effects on viewer comprehension and understanding of visual space (De Long, 1983), the most serious of which is viewing fatigue (Levy, 1983).

In order to be able to isolate and examine such specific effects, the following three questions must be pursued:

1. In the area of film and television composition, which research studies deal specifically with picture depth?

2. What are the specific effects which influence viewers' perception of visual space as it relates to television Z-axis staging?

3. Given that the above effects could be readily identified and controlled, what are the most suitable research measuring devices for their systematic verification and study?

Visual Space: Composition on the Depth Axis

The term visual space, in this study, refers to the opening of the two dimensional surface of a regular TV screen surrounded by the borders of the TV set. It is often referred to as "the concentrated living space, a new field of aesthetic expression" (Zettl, p. 100). It is the field in which constructors of visual images compose pictures by controlling the various forces generated by visual elements operating within its borders. Due to its small size and its condensed visual field, television picture constructors have tried to gain in depth that which they lose in horizontal framing. The small vista of the TV screen necessitates the practice of favoring the placement of visual elements on the depth axis rather than the horizontal one. This is known as the television Z-axis staging technique (Zettl, p. 175).

Numerous scientific studies dealing with the placement of visual elements within the depth axis for maximum utilization of visual space are found in such fields as painting, photography and film. A classic review and discussion on the depth variable in motionless visual space is given by Arnheim in his book Art and Visual Perception. In film, the most prominent of such studies are Deregowski's examination of depth cues and pictorial perception of people from different countries, and Evans and Seddon's investigation of the perception depth cues among Nigerian students (1978).

Empirical research examining the potential perceptual and physiological effects of the Z-axis staging technique in television are non-existent. Research studies that would varify the Z-axis staging theory and underline its advantages and flaws are limited. Various constructs which identify the theory have been underlined by Millerson, Zettl, Malik, Dondis and others.

A major construct of TV Z-axis staging is movement towards or away from the foreground of the visual space. Millerson discusses this construct in terms of viewer interest in movement of the camera and contends that:

> Movement towards the camera being more striking than movement away from it, we find that any forward gesture of movement is more powerful than a recessive action (e.g. a glance, a turned head, a pointed hand). A shot approaching a subject arouses greater interest than one withdrawing from it... (p. 290).

Zettl asserts that motion along the Z-axis can be one of the most powerful indicators of depth in the two dimensional fields of the TV screen (p. 192). He recognizes the visual impact generated by the combined motions of the camera moving towards or away from the foreground, zooming in or zooming out, and movement of the object or subject (p. 194). Anticipating users abuse of such a technique, Zettl warned us that if the zoom-in and zoom-out on the Z-axis is fast enough, it gives the impression that the objects or people either crash through the screen, right towards the viewer, or crash into something beyond the horizon away from the viewer.

Malik recognizes three types of movements within the video image which he calls "movement of the electron beam," "movement of the camera," and "inner movement". He emphasizes that abuse and mishandling of any such movements while on the Z-axis will have negative effects on the viewer and warns us that "if several domains within the picture are moved simultaneously, the possibility of information delivery diminishes arithmetically" (1978, p. 11).

Another major construct of TV Z-axis staging is the depth of field, which increases or decreases with the use of the wide or narrow angle lens or the telephoto or normal zoom lens. Recognizing the flexibility offered by the manipulation of the depth of field in television composition, Millerson states that "deep-focus techniques may help to achieve an illusion of spaciousness and depth, when scenic planes stretch from foreground into the distance" (p. 225).

Zettl, in discussing the depth characteristics of lenses as they relate to the depth of field in television pictures, explains that such depth cues as "overlapping planes," "relative size," "height in plane," "linear perspective" and "aerial perspective" shrink space and make objects appear closer together than they really are when they are paired with the wide angle lens, and create a "forced perspective" when paired with the narrow angle lens (p. 190).

A third construct of the television Z-axis staging theory is direction within the visual space created by objects and people placed in succeeding lines, one after another, or by vectors leading the viewer's eyes towards the center of the screen, or by people and objects moving towards or away from the foreground. Zettl discusses this variable in television composition in terms of blocking on the Z-axis vector which is defined as the visual line (action line) created by the placement or blocking of objects and people on the vertical plane within the X and Y axis (p. 214). Although Zettl has stressed the power exerted by such direction indicators when blocking on the Z-axis, empirical research which precisely measures and verifies its power and effectiveness is non-existent.

In fact, none of the constructs or variables mentioned above have been empirically verified. It is speculated that the delay in dealing with these variables could be detrimental to the study of television composition, and the development of the field of television aesthetics.

Visual Space: Psychophysiological Effects of the New Imagery

The imagery explosion, created by the new technology in visual communication media, has had its effects on multiple levels (psychological, physiological, neurological, sociological, etc.) and has generated a plethora of literary sources on their impact upon users of these media. Herein, the psychophysiological effects that these media exert on heavy users will be underlined insofar as they relate to the constructs of "movement," "depth of field," and "direction" in the theory of television Z-axis staging.

Rapid Inward-Outward Movement

Perceptual psychologists have pointed out that rapid inward and outward movement of visual elements in the visual field decrease the viewer's ability to receive, process and recall detailed information (Miller, 1969). The span of time required to make a judgement about the structure of the perceived visual image is analogous to the speed at which such images move in and out of the visual space.

The problems pertinent to the perception of motion and the limitations imposed by our eidetic apparatus have been examined by such psychologists as Spigel (1969), who underlines the overall problems of visually perceived movements; Kolers (1968), who discusses the differences between real and apparent visual movements; Mackworth and Kaplan (1969), who examine visual acuity when the eyes are perceiving moving targets; Treisman (1969), who has studied the elements producing visual attention in the confined visual space, and Averbach (1968), who has measured the span of apprehension as a function of exposure duration. What these and similar studies confirm is that, neurophysiologically speaking, man's ability to receive (see), process (recognize) and recall (remember) visual information in motion is limited. Furthermore, viewers' ability to instantaneously perceive and comprehend images moving rapidly towards or away from the foreground of the visual space depends greatly on several external and internal parameters which must be correlated and controlled. Externally, the shapes, sizes and structures of objects in the environment must be perceived, and internally, the total synthesis of such images must be comprehended.

An unusually accelerated motion of images placed within the Z-axis line is perceived as unnatural and unbalancing, contrasting the viewer's apprehension against his/her appreciation of the synthesis of the images. Let us consider, for example, what happens during an airplane chase as presented by video game imagery when paced along the Z-axis line. A barrage of planes (levels on which the various reference points of the field are placed) and various objects surrounding these planes move rapidly towards or away from the viewer, leaving no noticeable trace as to their structures, shapes, sizes, colors, or synthesis. These structures, moving so rapidly, do not produce any perceptual excitement and/or aesthetic feeling other than the anticipated immediate collision and explosion. Persistent viewers of these images and actions do not have the chance (due to the split-second span of time required between perception and cognition) to comprehend the messages, let alone to appreciate them. This causes "perceptual and emotional numbing" (Edmundson, 1984), in heavy users of video games and viewers of constant special effects in television images.

Distorted Depth of Field

Painters, photographers and filmmakers have always recognized the need to create the illusion of depth in the visual space. They have employed such techniques as "overlapping planes," "relative size," "light in plane," "linear perspective," "aerial perspective" (Zettl, 1973), "tonal manipulation of the light and shade of pictures" (Dondis, 1973),

etc. Filmmakers and photographers were also able to make use of different lenses to create depth such as (a) wide angle lenses to produce a long, narrow depth of field, (b) narrow angle lenses to produce a short, wide depth of field, and (c) normal lenses. The invention of the moving camera gradually changed these fixed focal length lenses into zoom and telephoto lenses which have the capacity to enormously exaggerate or diminish the depth of field. Without doubt, the limitations posed by the fixed focal length lenses of the past have been greatly eliminated by this new technology. However, the abuse of such technology has caused considerable concern among constructors of visual images.

Some theorists have warned us that distorted depth of field caused by the combined application of depth cues and extreme variance in focal length produces forced an unnatural perspective (Zettl, p. 190). It shrinks space, or, as Dondis puts it, collapses "space like an accordion" (p. 61). The technology has ignored and overlooked subtle principles of visual perception and neurophysiological limitations. The depth of field in a picture is the reference point, the establishing shot, the home base, which viewers use to observe, to perceive and to comprehend representations of the real world. When such fields rapidly and unexpectedly shrink or expand, shifting the convergence in depth perspective and destabilizing the observer's point of view, a considerable break-down in the viewer's ability to distinguish optical reality from perceptual reality is caused (Kolers, 1968).

Forceful Direction of Z-axis Vectors

Visual researchers have underlined the visual strength, power and dynamism exerted by directional lines found in the Z-axis vectors (Zettl, 1973; Dondis, 1973; Averback, 1968; and Taylor, 1964). The dangers, along with the particular psycho-physiological effects of directional lines caused by blocking in the Z-axis vectors were underlined and studied by Gregory, who pointed out the distortion of visual space caused by inappropriate constancy scaling; Beck, who examined the changes in shape and orientation when elements are in vertical axis; and Mackworth who found that excessive and complex visual stimulus on the Z-axis line produces a visible noise known as "tunnel vision".

When television images represent the real world on the vertical axis of the visual field, they enhance the perception of depth because of the forced directional lines which are created by the blocking of visual elements. One such effect is known to perceptual psychologists as "convergence error" (McKim, 1980), a principle which states that the directional lines in the depth axis cause image distortion and viewer discomfort. To correct such effects, McKim suggests that:

> A rule of thumb for the freehand visualizer is that vanishing points for small objects should be located far apart relative to the size of the image, and vanishing points for large objects (such as buildings) should be located relatively close together (p. 82).

Another effect caused by strong directional lines and forceful vectors is referred to as a "reinforced or focusing perspective" (Arnheim, p. 284). Strong directional indicators on the Z-axis vector forces our visual attention on certain objects at the expense of other objects in the field which remain totally unnoticeable. Recognizing how powerful such a force is as a means for representation and expression, Arnheim warns that "focusing produces a powerful dynamic effect. Since the distortions of the receding shapes are compensated only in part, all objects appear compressed in the third dimension" (p. 284).

When we consider the psychophysiological effects caused by rapid inward and outward movement, distorted depth of field, and forceful directional lines, and add them all together, one on top of the other, we can understand the degree to which these effects influence heavy viewers and persistent users. The new special effects in visual imagery may be creating what Aynsley describes as "a cinematic alchemy that is stunning and memorable" (p. 6), but they are often in direct contrast with the basic laws of visual perception and picture composition, overstretching man's ability to comprehend and appreciate them (Levy, 1983).

Visual Space: Research Instruments

The necessity to apply more progressive, diverse and precise measuring devices to communication media research topics has been the concern of several communication media research scholars, such as Behnke, Siebert, Fletcher, and Malik. The most appropriate measuring devices for the study of visual images have been found to be the psychophysiological measuring instruments developed in neurophysiology and psychology (both visual and experimental). In this section, the major and most commonly used psychophysiological research instrument will be briefly discussed in connection with their application to the depth axis variables in visual images.

Psychophysiological measuring techniques concern themselves with the covert or hidden responses to communication stimuli such as detection of eye movements and dilation of the pupils, increase in brain activity, changes in heart rate, variations in skin resistance, and changes in pulse, pressure and frequency. These covert responses are accompanied by measurable

sensoric reactions or release of energy which are considered indications in the level of activation or state of arousal of the individual. The ultimate purpose of communication media research that utilizes psychophysiological instruments is "to correlate physiological activation levels with various types of behavioural measures" (Belanke, p. 431).

The various sensoric reactions and energy changes due to information stimulation can be detected, analyzed, quantified and interpreted by accurate psychophysiological research instruments, all of which operate under a commonly shared measuring system. The psychophysiological devices that measure visual and auditory perception stimuli belong in the category of sensoric reactors. The most commonly used instruments are:

1. Depth, Size, Motion Apparatus

   Instruments which measure various depth effects or phenomena, sizes of visual stimuli and numerous illusions of moving or stationary objects.

2. Auditory Processors and Audiometers

   Auditory perception measuring devices which provide an accurate graphic display of informational input in upper and lower thresholds of frequency and intensity.

3. Tachistoscopes

   Visual and eidetic devices measuring high-speed visual projections of words, forms and pictures which can also correlate between left visual field or left eye and right visual field or right eye.

4. Eye Movement, Eye Dilation, Recording and Monitoring Devices

   These are of two types: 1) devices and methods that monitor the various "saccadic" and other eye movements, most commonly the Differential Reflection Reading Measuring Device and the Eye-Track and 2) those devices and methods that measure the dilation of the eye's pupil such as the Monocular and Binocular TV Pupilometer Systems. The specific devices used, and the particular methods of measuring the eye movements, are discussed by L.R. Young and D. Sheena.

Psychophysiological instruments measuring energy changes of the body due to informational stimulation are divided into five major areas, each of which has generated several devices.

1. Physiological Instruments that Detect and Record Electrical Activity of the Brain

The most frequently used instruments are the EEG (Electro-Encephalograph) and the BWA (Brain Wave Analyzer). While the EEG detects and measures the various "patterns" and "amount" of brain wave activity of a subject during varied states of stimulation, the BWA detects and identifies the neural efficiency of the subject in terms of learning capacity and learning disability.

2. Physiological Instruments that Detect and Record Skin Resistance or Response

The GSR (Galvanic Skin Resistance) and the GSP (Galvanic Skin Potential) are the most often used devices in this area. Both are indices of activation level changes in the subject's exosomatic (external) resistance of the skin (GSR), or endosomatic (internal) resistance of the skin (GSP). Among the communication media related variables detected and recorded by GSR and GSP psychophysiological instruments are: alertness, efficiency, difficulty, information gain, group interaction, and emotional impact of words or sounds (Behnke, p. 437).

3. Physiological Instruments that Detect and Record Heart Beat Rate

These are instruments that provide registers of activation level in the human circulatory system. The most commonly used heart beat rate devices are the EKG (Electrocardiograph) which records the electrical activity of the heart muscle, the Sphymograph, which records the arterial pulse contraction (systolic and diastolic) (Behnke, p. 442) and the Stythograph, which detects and measures heart rate, and consists of an ultra-sensitive microphone, electrical amplifier, and counter. Studies which detect heart beat rates and which record reactions to specific communication media stimuli always correlate the findings of these devices with other psychophysiological instruments.

4. Physiological Instruments that Detect and Record Changes in Muscle Tension

Although there are numerous advanced models in existence today, the most frequently used apparatus that detects and measures electrical energy generated by a subject's muscle contraction, is the EMG (Electromyograph). Whether surface or intramuscular electrodes are used in communication

research tests, the high and low amplitude muscle contraction is recorded in relation to the stressful or calm periods of the subject. In media-related studies, the findings of muscle tension indicators should be correlated with other psychophysiological indicators for maximum validity and reliability.

5. Physiological Instruments that Detect and Record Changes in Volume in Various Parts of the Body

These instruments indicate the levels of activation in the circulatory system and, more specifically, the automatic nervous system. The devices that detect and record changes in volume in various parts of the body are collectively called Plethysmographs (PG), from the Greek work plethos meaning a great number or enlargement. The commonly used plethysmographs are the Electrical Impedance Plethysmograph (EIPG), the Rheoplethysmograph (RPG), the Girth Plethysmongraph (GPG), and the Photo Plethysmograph (PPG). Several communication media oriented variables which have been detected and studied by such plethysmographic instruments are volume intensity, sound appreciation, and the quality of performance in verbal tasks. Unfortunately the variables of motion, depth of field, and direction in TV Z-axis staging have not been studied with any of these devices at all. Therefore empirical data on 2 axis staging is sorely lacking.

Yet a number of serious restrictions are imposed on researchers using biometric instruments to measure media-related variables. The signal-to-noise ratio imposed by the instruments themselves is one such restriction. The need to correlate the findings (or graphic output) of one device with the recordings of one or more other devices on the same variable is another restriction. A third restriction is the tendency of the recorder to overgeneralize on the basis of intricate readings of complex body mechanisms. Fourth, there is the need to perfectly match the initial levels of each subject's biological and physiological activities with those performed during the experimentation period. Finally, there is the need to understand the sensoric, thermal, chemical, and electrical changes of the human body as they relate to both the instruments that record these changes and the conditions under which such recordings occur. However, as Behnke suggests, we should not overlook the application of biometric instruments in communication media research simply because they impose "serious problems and difficulties" (p. 447).

Indeed, the apparent and hidden psychophysiological effects of the new imagery will only be measured decisively when we begin utilizing these advanced and most appropriate research instruments and scientific measuring techniques.

Summary and Conclusions

It has been observed that technological advancements in television images have resulted in an increase of media imagery. It has also been speculated that viewer exposure to these images has increased. It was hypothesized that such developments were bound to have numerous psychophysiological effects on heavy viewers and users of such media.

In this paper it was argued that: 1. Empirical research in the composition of the depth axis in television images would be the most appropriate route to follow for the examination of the psychophysiological effects of these images on heavy viewers. 2. Examination of such effects should be centered on the three constructs of the theory of Z-axis staging: motion, depth of field, and direction. 3. The scientific study of the psychophysiological effects caused by heavy usage of new media imagery should be based on advanced and appropriate psychophysiological devices.

It is concluded that:

1. Empirical research on TV Z-axis staging which would aid on the study of the psychophysiological effects of new media imagery is conspicuously lacking.

2. The combination of rapid inward-outward movement, distorted depth of field, and forceful direction of visual elements placed on the Z-axis disturbs viewer comprehension and diminishes the aesthetic appreciation of such images.

3. The psychophysiological instruments developed in the fields of psychology and neurophysiology are the most advanced and suitable tools for the study of such new and complex media images.

Empirical research on the suggested factors underlined in this study are warranted if we wish to achieve a better understanding of the visual communication media.

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IN SEARCH OF THE MORE REAL

by James Babanikos

> Seeing. We may say that the whole of life lies in that verb - if not ultimately at least essentially... and that, doubtless, is why the history of the living world can be summarized as the elaboration of ever more perfect eyes within a cosmos in which there is always something more to see... [1]

It was not until the mid-fifteenth century that Western artists sought to faithfully reproduce in paintings the world as they saw it. Only then did they begin to experiment with the techniques basic to representing depth on canvas. Immediately prior, the Byzantine painters positioned all objects in essentially the same plane, with the sizes of the figures determined more by religious rank than by geometric considerations. This perennial delineation of flatness persisted until the secularization of art, when paintings ceased to be appreciated as a form of consecrated expression alone, but as decorations and embellishments as well. The churches were no longer the only institutions to house works of art. Noblemen would also subsidise artists, and they demanded a more competent and life-like representation in their works, especially if the representations were of themselves. Portraiture thus aided in initiating the realistic tendency in painting, and, more important, many artists utilized the backgrounds to these portraits - presenting "sweeping vistas that recede towards a distant horizon" [2] - to create the first effective and compelling impressions of depth.

But, as Leonardo da Vinci so rightfully noted, it is not possible for a painter to recreate a scene as he perceives it, since by means of his two eyes he sees it from two different points of view but is only able to show it on canvas as it appears from one view. Yet a strong depthful quality, nevertheless, exists even when we close one eye, and it was through the conscious exploitation of these monocular depth cues that the 15th Century artists successfully managed to mirror the realities that confronted them. However, virtually none of the great painters portrayed the scenes merely as they appeared to be. By manipulating or exaggerating one or more of these cues, by distorting some aspect of the creation, each artist identified a style that was singularly unique and ultimately his. Largely because Rembrandt painted by candlelight, for instance, his paintings embody very effective highlights and shadows; El Greco's effects are enhanced by his uncommon use of colour; Reubens tends to make his figures stand out by showing them larger and in greater detail than the hazy backgrounds. Light and shadow, texture, interposition, perspective, relative size and the various other depth cues employed to translate a

three-dimensional reality on a two-dimensional surface were very quickly utilized with great sensitivity and knowledge by the Masters, but the world they presented was not the one that surrounded them. Upon mastering the skills required to depict the real, they chose instead to portray an artistic aberration of it, to sacrifice truth for beauty, and perhaps profit.

Towards the mid-1800's, photochemical techniques were developed which eliminated the hand of man in the production of pictures and hence yielded a strikingly convincing realism. The interpretive task of the artist was reduced to merely pointing the camera, and science intervened, flawlessly tracing whatever was in front of it. The reproduction was complete; reality was attained, insofar as the lack of colour and the limits of a two-dimensional surface would allow. Most monocular depth cues were immediately evident: linear perspective (objects diminishing in size as they recede from the observer and converge at the horizon), aerial perspective (atmospheric haze contributing to making the background appear distant), retinal size image (objects closer to the eye having larger retinal images and hence are seen as bigger), interposition (the overlapping of far objects by nearer ones), light and shade (cast shadows and light emanating from one or more directions provide valuable information of shape and depth), textural gradient (the loss of detail of an object the further it is from the observer). Other monocular cues imperative to the discernment of depth but which are not apparent in photographs are motion parallax (the phenomenon which explains why from a bus or train the horizon appears to be moving slower than the nearby houses or trees) and peripheral vision. Only one major cue remains to render the above list complete, stereopsis, the sole depth sense that depends on our having two eyes.

The concept of binocular vision was known long before da Vinci. In Theorems 23 through 28 of his "Treatise on Optics", Euclid deals with the problems of observing an object - in his case, a sphere - with two eyes. Descriptions of left and right eye perspectives were first published by Galen, the ancient Greek physician, as early as the second century A.D. in his "On the Use of the Parts of the Human Body." By the time of the Renaissance, most scholars were well aware of the material that Charles Wheatstone would write about hundreds of years hence, how

> ...it is impossible for the artist to give a faithful representation of any near solid object, that is, to produce a painting which shall not be distinguished in the mind from the object itself. When the painting and the object are seen with both eyes, in the case of the painting two similar

> pictures are projected on the retinae, in the case of the solid object the pictures are dissimilar; there is therefore an essential difference between the impressions on the organs of sensation in the two cases and consequently between the perceptions formed in the mind; the painting therefore cannot be confounded with the solid object. [3]

This had all been said before. Yet Charles Wheatstone is a pivotal figure because he was the one to actually "... make the first paired drawings of a kind that produce in the mind a stereopsis of the three-dimensional aspects of an image." [4] He sketched a cube from two points of view, one separated approximately two and one-half inches from the other (corresponding to the average distance between a person's eyes). With the aid of a simple mirrored apparatus he invented what he called the stereoscope which was able to simultaneously make the left eye see one image and the right eye the other. Thus the two images were fused together so that the mind perceived the depiction as a three-dimensional cube in space. The subsequent mating of this discovery with photography ensured that all depth cues pertaining to still pictures had been satisfied. Therefore the difference between representation and physical reality became less distinct.

Within a few years, the advent of cinema, "a medium using photographic reproductions of reality in movement as raw material," [5] made the distinction between art and life even more ambiguous. It is perhaps not by chance that the father of cinematography, Eadweard Muybridge, was also an eminent stereographer. There exists, in fact, a definite analogy between cinematography and stereoscopy. Whereas the former is a transposition of displacement in time, the latter is a transposition of displacement in space. The cameras are positioned side by side and converged on the same object in one case, and side by side for recording in sequence the same moving object in the other. Both are methods that attempt to imitate life, and almost from the beginning the two have been combined to generate as realistic a depiction of actuality as possible, though for various reasons, their union was not to be a popular or permanent one.

Experimentation to add depth to motion pictures began as early as the 1890's, when William Friese-Greene proposed a method which would project two pictures of the same scene side by side on a screen. The spectators were obliged to hold up and look through stereoscopes, which would allow the left eye to see only the left picture and vice versa. By 1897, a much more

sophisticated approach was introduced: the projection of two images in complementary colours (usually red and green) which the audience views through corresponding glasses of similarly coloured lenses. This anaglyph method is the way in which virtually all 3-D productions were viewed until the late 1930's. Then full colour three-dimensional presentations were made possible by replacing the red and green coding filters in the projection and the decoding filters in the glasses with polarizers, a coated material which discriminates images by lining up light waves. This technique is rather straight-forward; each view is projected through a polarizing filter, and the two filters are oriented 90° to each other. A metallic screen is required to retain the polarization of the image. As both images reflect from the screen and hit the glasses of the spectator, the polarized filter in front of each eye blocks the image whose polarization is opposite and passes the one whose polarization is the same. At about the same time, in the U.S.S.R., the lenticular technique was developed which altogether obviated the need for glasses, projecting two images on a screen consisting of thousands of vertical grids that reflect to the right eye what originates from the right projector and to the left eye what originates from the left one. Unfortunately, its many restrictions - including the enormous cost of the screen, the limited viewing zone in the theater from which a good 3-D effect can be seen, the requisite of remaining absolutely rigid while watching - greatly outweigh its one obvious advantage: the elimination of those damn glasses! In the West, at least, the polaroid method prevailed as the most fitting for the representation of the depth illusion in the cinema.

It would seem that the tremendous potential of stereoscopic motion pictures lay in the pursuit for greater realism, in the ever closer reproduction of actuality. Yet from the very start the emphasis was on the other extreme, sensationalism. Even the film which spurred a resurgence of 3-D in 1952, Bwana Devil, was no exception; despite terrible reviews, audiences flocked to the theatres in hordes to see 'a lion jump in their laps'; the film broke attendance records and made the feature an instant legend. The stage was set; the scramble was under way. Studios thirsting to win back the audience that had deserted them (weekly attendance in American theatres dropped from 82 million in 1946 to 46 million in 1952, largely due to the influx of television) set out to give the public what they felt it wanted. No time was lost. "In many cases, the front office, coming to a sudden decision to plunge into 3-D production, relayed its wishes to the studio camera department, and in less than 24 hours the studio had its first 3-D camera rig set up and were making tests." [6] Reminiscent of the advent of sound two decades earlier, Warner Bros. was once again the pioneer with House of Wax, the first 3-D film in colour from a major company.

To this they added three more stereoscopic pictures: The Charge at Feather River, The Moonlighter, and Hondo. Columbia produced a total of nine, including Man in the Dark and Fort Ti; Universal six (the two most renowned being It Came From Outer Space and The Creature From the Black Lagoon); Paramount five; MGM two; and 20th Century Fox two, the first of which, Inferno, considered one of the best in terms of story, photography and performances. No studio was excluded from the 3-D craze that swept Hollywood in 1953. In all, over 60 three-dimensional motion pictures were produced in that year.

The number dropped to less than 25 the following year. It appears that "the spectacular becomes ordinary very quickly once it has become familiar." [7] And there was little attempt to produce anything but the spectacular. The advertising line of 3-D films was emphatic: its major claims being that it put you in the picture and that it threw the picture right at you. All ads attest to this: 'You are trapped in the great Devil's Canyon...' writes the Inferno poster; 'Its thrills come off the screen at you' notes the one from House of Wax; It Came From Outer Space assures that 'fantastic sights leap at you'; and 'the shocking chills of the sensational suspense novel leap from the screen...' in The Maze. Not one of the advertisements shows the audience to be wearing glasses! In many of them, spectators are portrayed looking not at the screen, but - with heads turned - at the figures and objects that had supposedly protruded from it, irregardless, of course, of the fact that a tilting of the head by 15^{0} or more results in seeing double images and considerably lessens the 3-D effect, until eventually there is none at all. It seems that the process of deception was at work as much outside the theatre in luring the customers in, as in the movie itself.

By 1954, 3-D was already a relic, and many reasons were offered for its demise. One of the most widely held blamed the low quality of the films, noting that they were simply exploitative gimmicks. But what about the few films which were not exercises in assaulting the public, such as Hitchcock's Dial M For Murder or the musical Kiss Me Kate? Another explanation attributes the non-proliferation of stereo films to mainly technical reasons, "problems in the shooting rigs themselves, a lack of stereoscopic photographic experience on the part of otherwise expert technical crews and cinematographers, inadequate quality control in the laboratories, a system of projection not matched to the abilities of normal human projectionists, and penny-pinching exhibitor practices." [8] Admittedly, the task of producing and exhibiting a three-dimensional motion picture is much more complicated than producing and exhibiting a conventional 2-D one. But the intricacies are all mechanical ones, and hence open to remedy with time. Even in 1954, major

improvements were under way: a film strip was invented that carried both images (either side by side or one on top of the other), and only one projector was thus required, simplifying considerably the projectionist's responsibilities. However, evidence shows that this did not work as well as expected. In a study of 100 theatres showing stereo films in 1953 done by the Polaroid Corp. (Jones and Shurcliff, 1954), 25 of them were found to have images enough out of synchronization to be disturbing. The eyestrain and headaches people complained of having after seeing a 3-D film were real ones, and in most cases caused by the presentation. But of all the reasons, the glasses are still most usually cited as the greatest drawback to public acceptance of stereo films.

Hollywood itself dropped the axe on stereoscopic films as soon as the first signs of even a mild box-office decline began to be discernible. The studios ascribed their haste to board the 3-D production bandwagon largely on the fact that others were doing the same - anxious to cash in on the success of a single hit - and thus creating a situation which the entire industry eventually considered burdensome and detrimental to their best interests. It had all become literally embarrassing for Hollywood, especially from an artistic perspective; it was the era of the gratuitous point of view shot, utilized for no other reason than to orient the spectator so that "... arrows, balls, bananas, bats, birds, breasts, buzzsaws, cablecars, corks, corpses, crotches, crutches, derrieres, feet, fireworks, fish, flames, flowerpots, frisbees, gorillas, guns, guts, hands, hatchets, heads, insects, lava, legs, ostriches, poles, reptiles, rocks, scalpels, smoke, spears, swords, syringes, torches, trapezists, yoyos - and, more frequently, knives and water"[9] could be either thrown, thrust or poked at him. The quality of 3D films was so poor it is no wonder that the technical Oscars awarded in 1953 went to Cinerama and Cinemascope, and not to 3-D.

The medium that Eisenstein wrote would one day bridge the gulf between spectator and actor, between reality and fiction, has always been readily dismissed by Hollywood - save for those few months in the early 1950's. And even then the target was never realism. Almost all efforts were concentrated on the elevation of dramatic effects over effective drama. The emphasis was on presenting objects that appeared real in stories which were explicitly fictitious; the push, at best, was towards a reality of effect.

It may very well be that the innate nature of 3-D films is such that the attainment of realism is much more elusive here than in conventional motion pictures; that far from involving the audience, the third dimension alienates them even further; that only those kinds of features totally removed from actuality are

the ones to benefit from it. Apart from sharing the artificialities inherent in all films, 3-D has some additional ones of its own: the necessity of wearing spectacles, of having to retain a vertical head position, of eyestrain, of the anomaly of actors and objects - protruding slightly - appearing to flatten out abruptly at the edges of the screen, etc., all of which continually remind us of the process and detract from completely suspending belief. Also, the very objects which enhance the illusion of depth distract the attention of the audience. Seeing all sorts of paraphernalia coming out of the screen and vanishing as they're about to strike only accentuates their separation from real life. There is an unending insistence on make believe.

One cannot help but wonder why the opposite property of the stereoscopic image was not exploited by filmmakers; why, instead of bringing the object so much closer, not retreat it farther than ever before? Quite a number of situations lend themselves to this illusion of depth away from the audience, such as loneliness and isolation, for example. Yet there is a reason why this was not done, and it lies in the limitations of the basic principle of 3-D itself, namely stereopsis. Nothing more would be gained from such an endeavor that would not be possible from a 2-D presentation.

> The distance of an object determines whether or not it can be seen stereoscopically. The closer it is the more definite is the observer's sense of its depth, its real dimensions, and its distance away. The farther away an object is from an observer the less the observer's sensation of its real dimensions. There is a distance at which stereoscopic seeing no longer exists for the human eyes. [10]

In other words, 3-D is very effective at short range. Moreover, stereopsis is not the strongest depth sense, but acts as added refinement to the more fundamental monocular visual cues. Only in capturing the effects of objects hurled from the screen towards the audience is this binocular act of fusion at its most dramatic.

The general impression one gets from watching 3-D films is:

> ...that when the stereoscopic image is discreetly and unostentatiously used one is hardly, after the first reel or two, aware of it - except for a slight feeling of remoteness, which is certainly no dramatic advantage - but that when it is used for sensational

> effects (spears, chairs, tables, boiling wax, etc. thrown or poured at one) it causes a definite distraction from the drama, and serves only to point up the artificiality of enlarging one dimension at the expense of the other two. [11]

Also, there is a distinct feeling that stereoscopic films operate within two layers of space, foreground and background, and the connection between the two is most often not immediately apparent. To this the audience is a third, detached, almost isolated factor. It is through a stunt - something directed or tossed from the screen - that any sort of correlation becomes established between the three, only to be broken again when the gimmick has terminated.

One of the constraints of binocular vision is that only one distance at a time can be in focus to the eyes; however, as we wander from point to point in a scene, our eyes converge so that whatever we look at is seen in clear, sharp focus. The same is expected in stereoscopic motion pictures, but is not always to be found. Comfortable 3-D viewing requires full depth of focus in photography; the lens must be stopped down or the scene depth limited. Stereoscopic films destroy the comparatively always in focus screen of 2-D. At the same time, many conventional, effective story-telling techniques - such as soft focus, pans, tilts, close-ups, rapid cuts, etc. - are all undesirable in 3-D.

Another extension of the motion picture that proliferated in the early 1950's which abides by the rules of conventional filming and whose goal (apart from the financial) was also a quest for realism, was the wide screen. This process was based on the phenomenon of peripheral vision; the brain builds its psychological impressions of depth and space through the decoding of everything seen around the rim of our visual arc. Our subjective space world is curved, extending from one periphery in an arc in front of us to the extreme other periphery, totalling a distance of approximately 200°. "The common binocular field, centrally located, covers an angle of 130°, with a temporal crescent of 35° on each side in which the primitive panoramic vision still functions." [12] In order to record as much of this panoramic view as possible within a single frame, a camera with three lenses was constructed, each lens registering in perfect synchronization one-third of the entire scene. Three separate machines were required to simultaneously project the extravaganza upon a huge, curving screen, six times the size of a conventional one. Depending where one was seated in the theatre, the lateral field of view could be as high as 145°. This very wide angle of vision and the curved screen in Cinerama both served as very

important cues for the illusion of depth, and as a result greatly enhanced the percept of reality.

However, the process was much too expensive to be marketable (conversion costs ran as high as $150,000 per theatre, about half of which was for equipment), and it became obvious that something just as good for a fraction of the cost was what the industry needed. The answer was CinemaScope, a technique invented nearly 25 years earlier by the French physicist, Henri Chretien, and acquired by 20th Century Fox early in 1953.

> Its basis was an anamorphic, or distorting, lens that squeezed an ultra-wide picture into the ordinary 35mm frame; when shown in a theatre a compensating lens on the projector restored the picture and expanded it to more than twice its normal width on a special elongated screen.[13]

Although heavily publicized as possessing all the attributes of Cinerama - a large, curving screen and the ability to be viewed without glasses - it nevertheless induced only the weakest approximation of peripheral vision and hence a largely unconvincing illusion of depth.

Yet very quickly CinemaScope eclipsed the advancement of 3-D, and as early as 1954 the entire industry had forsaken the third dimension for a concentrated attack on a wide front; by 1957, 17,500 of the 20,000 theatres in the U.S. had been equipped with the larger screens and anamorphic lenses. There have been many reasons to account for the success of this undeniably less realistic mode of filmmaking at the expense of stereoscopic productions: the fact that 20th Century Fox introduced the technique to the world with The Robe, one of the company's biggest productions, and not with a hastily produced film that would have cheaply exploited the new sensation; the considerably fewer technical intricacies of wide screen cinematography as opposed to stereoscopic, as well as fewer problems in exhibition; the importance of it being a method which was financed and developed within the studios, whereas 3-D was an independent endeavor; the doing away with the glasses and the assurance that even people with monocular vision could experience its effects (5-10% of the population cannot see stereo and up to another 10% have anomalous stereo perception, which may play an instrumental role in reducing the attendance of others at polarized pictures). But perhaps the most important reason may very well simply be that movies are inherently better in 2-D, especially with a wider screen; that no matter how well executed and faultless 3-D films become, and whether they are seen with or without glasses, they will always suffer from the reality that they are no longer motion pictures, but, rather, motion images.

Conquering the third dimension is thought to be the final step in achieving what André Bazin calls 'the myth of total cinema.' The history of film can be seen as a series of technological advances which yielded a nearly complete representation of reality, the most obviously sound, colour and depth. Certainly the advent of the talkie was a giant step. As a vehement opponent of any and all innovations which bring film closer to reality and hence further from art, Rudolf Arnheim writes that "... sound arouses an illusion of actual space, while a picture has practically no depth or objectivity... when the uniting tendency is victorious, the picture participates in the spatial quality, which is a property of the sound united with it - the scene appears three-dimensional." [14] And even Jean Louis Comolli notes, "Sound and speech are plebiscited as the 'truth' which was lacking in the silent film... the decisive supplement... (that) intervenes straightaway, therefore, as perfectionment and redefinition of the impression of reality." [15] No one could refute the significance of colour in faithfully reproducing the material world as it exists.

Depth, as well, is indispensable to seeing the world as it really is. Deep focus allows the spectator to witness an entire scene and hence to have the freedom to pick out what s/he deems important. Montage is minimized. The director suggests rather than dictates what to look at; there is room for interpretation. Although the Formalists insist that a large depth of field and long takes are detrimental to the artistic potentialities of film just because they approach reality, the ambiguity these shots offer should be sufficient to appease this argument. A wider screen only accentuates this sense of obscurity since so much more can be shown and therefore the need for cutting is further minimized. Even in close-ups, the characters are never divorced from the reality of their everyday environment.

CinemaScope is literally, then, an extension of the conventional cinema. And in being so, it can take advantage of the various cinematic techniques that have been experimented with and perfected over the years. Charles Barr in his influential paper "CinemaScope: Before and After" cites how even the traditional aesthetic principles that emphasize framing, the close-up, camera angles and montage work just as well if not better in the wide screen, dismissing reservations that even proponents had of this new medium. Also, it can use as subject matter material which had already proved itself. Of the ten most profitable films in the three years immediately preceding the 3-D 'revolution', five were historical epics (Samson and Delilah, David and Bathsheba, King Solomon's Mines, Quo Vadis and Ivanhoe), stories whose presentation can be made that much more stunning with a wider screen. It is by no accident, then, that

20th Century Fox's first CinemaScope release was based on a Biblical tale, and even less of a surprise that The Robe became the top money earner of 1953. Moreover, this method need not rely on the spectacular, the sensational or the trivial, and was successfully employed in films which evoke an intimacy, a warmth, a compassion not inferior to the classics before them (examples including Rebel Without a Cause, The Best Years of Our Lives, and East of Eden).

On the other hand, 3-D is a medium in its own right, with its own techniques, its own merits and its own potentialities, which are yet to be discovered. Its restrictions and limitations in attempting to portray a story in the conventional manner have only been too apparent. As a result, the only value it can boast is one of novelty: every few years a new audience emerges which has never been exposed to the process and is enticed to the theatre by sheer curiosity; once it is satisfied, 3-D again remains dormant for a decade or two, only to resurface once a new generation has grown up. If it is to survive, new stories will have to be found, and, more important, new ways of telling them, ways which will be unique and indigenous to this medium alone, which will take full avantage of its prodigious realistic tendencies. Directors will have to refrain from abusing the depth illusion to capture the audience's attention. This has proved to be a perpetual cul-de-sac. One must remember that "... realism in the cinema is driven by a desire to make the audience ignore the process of signification and to grasp directly the film's plot and intrigue," [16] which is still not the case with 3-D, nor should it be. For it will be through a quest not for realism but for a singular mode of expression that 3-D will take its place among the arts.

"Every flicker on the screen is a charming fraud, a polite deception." [17] Film is, after all, a work of art, and hence, by definition, an illusion; it is a kind of signification of reality, which is not to be confused with reality itself, regardless of how 'lifelike' techniques such as the wide screen or 3-D can render it. The acts of selection, distortion and elaboration are an indispensable part of any artistic endeavor; nature is inevitably destroyed before it can be depicted. Art is not simply imitation or representation, no matter how accurate and true to life, but, on top of these, art is, most of all, expression. Let us hope that the cinematic processes described above (which approach a reproduction of at least a physical reality) will aid the artist in expressing "the universal concerns of our shared humanity" [18] in a manner which will make us all more readily see our common predicaments, and, hopefully, make us understand the need of working together towards finding common solutions.

NOTES

[1]Teilhard de Chardin, The Phenomenon of Man; cited by Hal Aigner in "The Coming 3-D Movie Revolution", Take One, Vol. 2, No. 9 (January/February 1970), p. 6.

[2]Lloyd Kaufman, Sight and Mind: An Introduction to Visual Perception (New York: Oxford University Press, 1974), p. 215.

[3]Charles Wheatstone, "On Some Remarkable and Hitherto Unobserved Phenomenon", Phil. Trans. Royal Soc. (21 June 1838), p. 376; cited by Roger Ferragallo in "On Stereoscopic Painting", Leonardo, Vol. 7 (1974), p. 98.

[4]Roger Ferragallo, p. 98.

[5]Roy Armes, Film and Reality: An Historical Survey (London, G.B.: Cox and Wyman Ltd., 1974), p. 76.

[6]Arthur Gavin, "All Hollywood Studios are Shooting 3-D Films", American Cinematographer, Vol. 34, No. 3 (March 1953), p. 108.

[7]George Bluestone, "In Defence of 3-D", Swance Review, Vol. 64, No. 4 (October - December 1956), p. 686.

[8]Lenny Lipton, Foundations of the Stereoscopic Cinema (New York: Van Nostrand Reinhold Co., 1982), p. 41.

[9]Michael Kerbel, "3-D or Not 3-D", Film Comment, Vol. 16 (November/December 1980), p. 15.

[10]J.A. Norling, "Three Dimensional Motion Pictures", Journal of the SMPTE, Vol. 33 (December 1939), p. 614.

[11]Gavin Lambert, "House of Wax, Man in the Dark and Bwana Devil Reviewed", Sight and Sound, Vol. 23, No. 1 (July-Sept. 1953), p. 31.

[12]Thaddeus R. Murroughs, "Depth Perception, With Special Reference to Motion Pictures", Journal of the SMPTE, Vol. 60 (June 1953), p. 662.

[13]Arthur Knight, The Liveliest Art (N.Y.: MacMillan Publishing Co., 1957), p. 318.

[14]Rudolf Arnheim, Film (London: Faber & Faber, 1933), p. 236.

[15]Jean Louis Comolli, Machines of the Visible Ideologies of Representation and Techniques of Cinema - 1978 Milwaukee Conference paper, p. 16.

[16]Dudley Andrew, Concepts in Film Theory (N.Y.: Oxford University Press, 1984), p. 48.

[17]Parker Tyler, "Movie Note: The 3-D's", Kenyon Review, Vol. 16, No. 3(Summer 1954), p. 472.

[18]Abraham Kaplan, "Realism in the Film: A Philosopher's Viewpoint", Quarterly of Film, Radio and TV, Vol. 7, No. 4 (Summer 1953), p. 381.

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TOWARD A RENEWED HUMANISM IN FILM STUDIES *

by Marc Gervais

The situation facing film educators and film researchers is a paradoxical one. And that is reflected in the attitude of most of us who are involved in the field. It is still a heady, exciting business, to be sure. And yet, there is an undeniable sense of confusion, of loss of direction.

On the one hand, the wave of popularity has not subsided; and we are still propelled forward along its crest. In Canada and the U.S., for example, literally hundreds of thousands of students attend film courses of one kind or another offered in well over one thousand colleges and universities. Most countries now have impressive film institutes and centres of research. Add to that a goodly number of special research events, film journals, and the like, and you have a picture of serious, energetic activity. If, as we used to say a few short years ago, film was **in**, then it still is very much today.

But there is another side to this phenomenon, one that becomes increasingly evident with the passage of time. Unquestionably, film study as it exists today does not enjoy the kind of uniformity and sense of shared goals and procedures that have, more or less, been characteristic of older, related disciplines. There is, for example, no consensus whatever in something as essential as what film studies should be about. Much less is there the possibility, in the present moment, of adherence to a commonly shared methodology.

Academics especially tend to long for marked out territories of investigation and for generally accepted procedures. And that is natural, given the imperatives of what are at least the long-ingrained habits of the 'western mind.' Can it be that the very nature of film itself resists this kind of rational appropriation?

However that may be - and we shall return to this point - the fact remains that any attempt to describe the field today ends up in the realization that profileration is the way of life, and confusion its chief negative attribute. Robert W. Wagner[1] concludes his survey of the state of affairs in film study with this summation:

> As of early 1978, there is no single comprehensive statement of what has been researched about film and television, no taxonomy that may yet be applied to the field, no important, widely reported inter-

* First published in The Australian Journal of Screen Theory 9/10, November, 1980.

> disciplinary studies, no demonstrably strong interest in research among a significant number of persons academically or professionally involved in these media, no long-range studies to provide historical perspective or to give meaning to what might have been found out and to stimulate interest in future research. There are no established national standards for film or television degree programmes at any level and no criteria for teacher accreditation in a field that has no single professional or scholarly organization strong enough to formulate and insist on such credentials.[2]

If such statements are in any way accurate, the state of film studies, as an academic discipline, is far from satisfactory. There is nothing new, however, in that. The same critique, mutatis mutandis, was being made in Paris in 1963 by Jean Mitry even when limiting himself to film writings of a more strictly aesthetic nature.[3] Two years later, in typically thorough fashion, Christian Metz extended the indictment to include all areas of serious investigation into film. Polonius himself would have gasped at the enumeration of approaches - historical, economical, aesthetical, semiological, political, ideological, psychological, psychoanalytical, sociological, communicational, scientifical. And, of course, history records that Metz went well beyond mere enumeration. Whatever contributions previous film research might have made, Metz went on to contend, the time had come for a radically new, disciplined, scientific approach. Henceforth, the 'old' way, with its 'cultural eclecticism', its undisiplined, more or less all embracing 'impressionistic' approach, with concomitant lack of scientific precision and discipline, was simply not good enough. In the present age, film research must be on a par with other research, it must adhere to a strict 'principle of pertinence'. Whatever the discipline, adherence to a consciously circumscribed, organized, consistent, and thorough method of enquiry is required, if film study is to evolve beyond fragmented cultural musings, however brilliant they may be.[4]

And that was that. Like it or not, it is probably fair to say that the course of film study history was changed to a significant degree. True, Robert Wagner's over-view remains true to the total picture today. And equally true, a certain kind of work has gone on space, uninfluenced by Metz' insights, and very much in keeping with the work of the past. 'Lost' treasures, for example, have been and are being rediscovered, restored, catalogued, even made available for viewing and study. The multitudinous inaccuracies of pioneer film histories - those belonging to the heroic age of first compilations - are being corrected, with a new emphasis on accuracy, nuance, breadth, and

depth. Though auteurist discoveries really belong to the immediate pre-Metz period, there has, in recent years, been much needed work done - correcting the auteur overemphasis? - on Hollywood studios, on what went on around the creation of certain films, on film genres, etc. Thanks to the work of freewheeling, 'unscholarly' scholars such as John Kobal, entire eras are being reassessed, and script writers, cameramen, designers, fashion photographers (those myth creators) have come into their own.

And yet, for a significant portion of those involved in the analysis of the fait filmique (to use Metz' borrowing from Gilbert Cohen-Seat[5], the history of film study indeed was changed. Metz' intervention did alter the rules of the game, if not the very nature of the game itself. It is astonishing to note that scarcely more than fifteen years have slipped by since Metz began an enterprise, however marginal it may still be considered by most, whose gigantic intellectual ambition has almost been matched by the calibre and quantity of work it has produced. It was Metz' contention, and it continues to be the contention of the many scholars who have developed his line of investigation, that the 'new' methodology, and the disciplines involved, alone are equipped to bring about the scientific, objective, reliable characteristics so sadly lacking to contemporary film research. In other words, Metz prescribed in the mid-sixties a method of enquiry into film which he felt could unify the whole complex business, giving it solid scientific foundations, and thereby solving the very ills described by Wagner as still plaguing film studies some fifteen years later (today).

The ensuing work has been prodigious, much of it directly involved in evolving a methodology and trying it out, and even more of it at least indirectly connected to the (Metz) mainstream, nourished by the vocabulary, insights, and findings already furnished by these studies. Though most of us cannot claim to have mastered the current that has been released, nevertheless, we have all been touched by it, rendered enthusiastic or fearful, that heady mix, sometimes mutually contradictory, sometimes mutually complementary, of semiotics/structuralism, Marxism, and (Lacanian) Freudian psychoanalysis (henceforth, for brevity's sake, crudely referred to here by its initial letters, SSMP). Metz himself has referred to it as the materialistic triad; and he makes it quite clear that in today's intellectual climate, the triad is the relevant approach for homo-end-of-twentieth-century.[6]

Marginal or not, it is sufficiently clear that SSMP has assumed a dynamic role in the developing field of film analysis. To a great extent, it has dominated the methodology debate, and like it or not, we are forced to play by its rules, faute de mieux. So true is this that the present writer, in attempting to discuss film research methodology, finds himself compelled to come to terms explicitly with its basic tenets. In the present article, as a matter of fact, it is by presenting what I feel are the inadequacies or deficiencies in SSMP that I articulate more meaningfully my own personal orientation. So the reader will bear with me in my circuitous approach to the 'renewed humanism' proposed in the title, via a somewhat prolonged dicussion of SSMP.

There is no need to go into an exhaustive description of this tri- or quadri-partite method of enquiry, nor would it be possible adequately to do so within the confines of this paper. It is not unfair, however, to mention certain rather common notes which have delighted some, no doubt, but which have plagued many more: a resolutely materialistic credo, structured along binaristic lines, generally couched in a terribly difficult style with its own special jargon and formulations, in a spirit of total adherence to the reductive categories and rationalisms contained within its own systems, and this more often than not in a spirit of dogmatic exclusivity.

Be that as it may, undoubtedly, for many, Metz' call proved an inspiring one, and history testifies to the enthusiastic response it has elicited. In truth, a great number of those involved in film research were in desperate need of something to turn to, to find their way into meaningful research. Moreover, the world view at least implicit in SSMP in many instances found sympathetic resonances in the new followers in many (western) centres.

For unquestionably, the new methodology was a revolutionary one, and its politico/ideological, as well as philosophical and epistemological implications have been far-reaching indeed. One wonders, however, if it is sufficiently understood in the world of film research that at the base of it all was, is a conception of life, knowledge, and art (cinema) which must be accepted if one is to subscribe, with any kind of totality to the often brilliant findings of this 'school'.

And there's the rub. For the philosophical underpinnings of SSMP represent one (or a few) of the possible ways of encountering human experience or of trying to make sense of the human situation. There are other modes, other philosophical 'bases' that have shaped most of us. In the context of western culture, the dominant mode has found

expression in what we rather vaguely refer to as 'the humanities' or in 'the humanistic ideal'. These very terms, let it be stressed, have become anathema in the world of SSMP. And surprisingly enough (perhaps rightly so), in many instances the majority group (the humanists), confused, are on the run.

Humanism

Humanism is one of those terms condemned to meaning too many things. It has undergone a plethora of varying incarnations in a variety of milieus. In the British context, for example - I choose that context because it has influenced us so profoundly - the term has been given unmistakeable Establishment overtones, whether in the world of academe (Oxbridge) or in the world of urbane, eclectic film reviewing (prestigious newspapers, magazines, Sight and Sound, etc.) Replete with Parisian intellectual references, Metz' methodological manifesto against the old way takes on, in Britain, the stridency of class conflict. At times, the intellectual discourse degenerates, manifesting the age-old symptoms of one elitist group scrambling to displace another. The proponents of SSMP like to cast themselves in the role of warriors struggling against upper class 'taste' and snobbery. And that becomes, somehow, imperceptibly, a struggle against humanism, but a special kind of humanism, understood at best as a genteel acceptance culture, or as conservative reaction, or even (most pernicious?) as conscientious liberalism-individualism.[7] How often have we read such phrases as 'oppositional democratic discourse versus bourgeois establishment entrenchment' and the like?[8]

Beyond the word games, however, and beyond the factions and personalities, it is worth repeating that the fundamental issues are of crucial importance, involving as they do nothing less than the manner in which we view existence, knowledge, art, our priorities. In the polemics of the present moment, those deep implications or perhaps more accurately, those fundamental philosophical bases, tend to be passed over or to be taken for granted and far worse (in my view), what seems to have become meekly accepted is an understanding of humanism that is a gross distortion, robbing the notion of its human breadth.

There is an irony here. For at the very moment that this sort of thing is going on in certain film research and film academic circles, it is precisely to this breadth of vision that, in North America at least, a rapidly and vastly growing number of institutions of learning at all levels are turning.

That contemporary western culture is in a state of crisis is one of the tired truths of our times. And surely a most poignant manifestation of our malaise is the loss of vision, with the concomitant in ability to judge and to implement. In answer to this, intellectual leaders such as Henry Rosovsky, Dean of Arts and Science, Harvard[9], are attempting to create a refurbished humanities or liberal arts, a systematic curriculum, let it be noted clearly, that attempts, as far as it is possible, to incorporate all the fundamental insights and breakthroughs of the contemporary world. That means a humanities not only given to the pursuit of knowledge about language, history, art, science, and philosophy, but also whose purpose is to help people make critical judgements about ethics and social policy, to understand diverse cultures, to see connections between humanity's past and present. The ideal is one of openness, the teacher being caught in his or her own dialectic, i.e. how to reconcile commitment to one's insights, convictions, and choices, while remaining truly conscious of and open to other perspectives or world views.

Specifically, what does this mean in terms of film studies - and still more specifically, in terms of film analysis methodology? For one thing, a renewal humanism would be a sham, if for instance, it failed to incorporate at least an awareness and understanding of the most creative insights and elucidations arrived at by SSMP. But the very breadth of the humanistic approach makes total adherence to SSMP tenets impossible, if by that we mean what the proponents of the new method have often espoused, that is to say, a kind of intolerant exclusivity, a radical reducing of experience, art, or film, to the 'materialistic rationalisms' of thought systems based on philosophical or ideological assumptions that are, to say the least, not only not shared by all, but incomplete and highly debatable in themselves.

This, I believe, is the crucial issue, one that is of extreme relevance to all of us involved in the study of film. As such, it demands elucidation and demonstration. Perhaps, then, some additional pertinent (or impertinent) remarks, questions, or evaluations about aspects of SSMP may prove helpful, it being always understood that the basis implicit in my probing is the humanistic ideal, which will gradually emerge with greater clarity.

Semiotics (Semiology)

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say, literature or biology or whatever. Valid research indeed must be true to its own principles, strictly limited by its method of investigation, with its findings contain within its own clearly defined parameters. Easier said than done, to be sure; but Metz' own work remains a model of conscientious dedication to this ideal. There can be no quarrel here.

2. Metz' total absorbtion in an objective mastering of the 'text' (film), breaking it down into its constitutive elements, mastering its visible or 'invisible' codes, and, above all, finding out how it functions as a text is if anything, even more significant. Once that kind of insight has surfaced, there is no turning away, no going back to easy habits of casual reference to a film, extracting a few of its more or less accurately remembered elements in order to expound on one's own theory or world view. Or so it would seem.[10] If that is what one means by semiotics or by the semiological approach, there can be no quarrel here either.[11]

   In a sense, of course, the world of English and of American letters had already experienced a serious application to scrutiny of text and its functioning in the work of I.A. Richards, Leavis and the New Critics, even if their orientation could hardly be termed specifically semiological. A similar orientation in film analysis, however, had not yet seen the light of day in England before SSMP.

3. Semiotics, as applied to the cinema, however, has come to imply much more than application to text and adherence to the principle of pertinence. And <u>that</u> is where the clash with the humanities approach arises. The origins of semiotics in, and its continued essential interrelationships with, structuralism and linguistics is reflected in methodological similarities and shared philosophical underpinnings that go much further.[12]

   a) <u>Functioning of text</u> is accorded precedence over sign and its connections with 'reality'. It is the <u>system</u> that counts, the <u>how</u> whereby signs are structured to arrive at some communication or meaning. The 'innate' power of the sign, its 'reality' factor, its 'transparency' or '<u>densité ontologique</u>' so dear to Andre Bazin and Co., is simply dismissed. And 'mystical bonds with reality', the 'mysterious unknown dimension', etc., etc., are revealed as sheer mumbo-jumbo, the products of 'spiritualist' or 'personalist' (and <u>therefore</u> irrelevant) philosophies.[18] In the semiological context, external reality tends to be squeezed out of the sign, the 'truly relevant' reality being its functioning within a text. Needless to add that the philosophical implications

and demands are enormous, determining, to put it too simply, just what kind of game the analyst is called upon to play, and by the same token invalidating many theories of film (and art) enunciated over the years.

b) The study of codes confirms the bias, for codes are understood as being essentially cultural creations, the question of where or how or why 'culture' or the 'mind' has created them assuming no importance or (once again) relevance. As always, the effort goes into spotting how the intellect structures the components in question.

c) Jean Mitry's great - and early (1967) - misgivings about the very possibility of semiological appropriation of the cinematographic sign have never been laid to rest, even though Mitry has taken quite a beating for his stance. For Mitry[14], the cinematographic sign simply cannot be reduced to, or fitted into, any meaningful category. There are so many ways the sign can be created (by photography, animation, from real locations or artificial sets, etc.), through so many variables (lighting, composition, focal variation, etc.) of so many degrees and shadings that it resists any authentic categorizing. Hence, semiotics is excluded from its most basic element, at least in this essential aspect.

d) But in spite of this, most of the work that has been done on individual films unquestionably adopts the binaristic mould inherited from linguistics and structuralism. The various filmic signs are divided neatly into binaristic 'oppositions', 'pairings', 'substitutions', etc., reducing thereby the limitless complexity of the cinematographic (at whatever level) into handy mind-constructs which are then able to lend themselves admirably to total intellectual appropriation or control[15].

By a remarkable irony, in such instances semiotics has thereby led us far from a real respect for the text. Instead, there is a reducing of text in accordance with the demands of a particular method, in order that the intellect may arrive at clear, precise (and brilliant) conclusions.

Psychoanalysis

Metz' shift in 1975 from semiotics to Freudian psychoanalysis[16] is less astounding than would at first appear, for it was a particular kind of Freudian psychoanalysis that was the rage in Parisian literary circles at the time. As Don Fredericksen points out:

> Metz' psychoanalytical work is based on the controversial reading of Freud performed by the French psychoanalyst Jacques Lacan, a reading whose essential thesis about the unconscious - that language is its precondition and context - accepts Saussurean semiotics, especially the privileging of the 'structure of the signifiers' in its theory of meaning.[17]

Metz himself states:

> Reduced to its most fundamental approach, any psychoanalytical reflection might be defined in Lacanian terms as an attempt to disengage the cinema-object from the imaginary and to win it for the symbolic... That is to say, in the field of films as in other fields, the psychoanalytic itineray is from the outset a semiological one, even (above all) if in comparison with the discoveries of a more classical semiology it shifts from attention to the énoncé to concern for the énonciation.[18]

In other words, Metz was remaining true to the basic semiological frame of mind, even though he was adventuring out, or rather down into new depths: the psyche, the unconscious, the realm whence spring images, creation, spectator fascination - or, which eventuates in symbols which reveal a hidden text that Freudian insights permit us to read.

The application of this very difficult discipline to film is, to put it blandly, very difficult, but the work of Metz and those who have followed his lead goes on unabated, furnishing SSMP with one of its most vigorous streams of intellectual output.[19]

A few observations, then, from the humanities point of view:

1. Metz' intention has never wavered: the text should be truly respected in its total functioning. Ideally, semiotics should furnish the data which Freudian psychoanalysis should then attempt to render meaningful. Alas, this ideal is too often not well served. If Raymond Bellour's work comes close[20], many efforts are far more impressionistic' or arbitrary. For example, Michael Renov's 'From Identification to Ideology: the male system in Hitchcock's Notorious[21], for all its correct use of the highly technical vocabularies both

of semiotics and above all of Lacanian psychoanalysis, nevertheless, falls into the old game of choosing a few elements in the film that suit his purpose, elements he then uses to construct his case. His results are partially illuminating, I feel, but ultimately, too many complicating (and contradicting) elements of the film have been overlooked, with the result that Notorious has been distorted in the name of a brilliant analytical exercise that fits into the method.

2. But even if we could assume that the 'relevant' elements of the text have indeed been respected, that all sorts of other unruly elements do not, in fact, reveal the choice as partial, limited, and hence condemning the text to a simplified, hence falsified reading, a prodigious act of faith is still demanded of the analyst or reader: to wit, that the deciphering of the text (the 'relevant' one, that is) produces 'the meaning'.

For indeed the validity of even the most perfect Freudian (Lacanian) rendering rests on the acceptance of that system's validity. All the terminology, perfectly used [22], succeeds in giving us a radically reduced universe, derived originally from clinical studies of pathological cases, then erected into a system that has proved mightily enlightening as far as it goes, but the key word here, once again, is ... reduction.

At the very level of analysis of the unconscious, Don Fredericksen[23] attacks the Freudian approach, insisting on the greater suitability of the Jungian. Fredericksen points out how the Lacanian system is based on a semiotic understanding of sign whereby one known thing 'stands for' another known...the cinematographic sign or its configuration can be reduced, be read, revealing a hidden text, which is known (thanks, of course, to the Freudian revelations). That complex entity, 'up there on the screen', if 'read' correctly, can be reduced to the basic Freudian pattern, which is the 'relevant' one.

Jung is absolutely opposed to such a procedure (i.e., in terms of analysis of the subconscious). The 'known' (for our purposes, the cinematographic sign) refers us not to another (Freudian) 'known', but to much vaster, less precise areas - the 'unknown'. Without entering the debate and taking up the Jungian

> cause, one can agree with Fredericksen that Jung is much better attuned to what is surely an essential aspect of so much of the fiction cinema - and what I have referred to vaguely with such expressions as its 'secret power', its 'mysterious seductiveness', its 'echoing the cosmic heart beat' or what have you, which have served as the basis for much of the theorizing on art, film, perception, etc.[24]

Marxism

The Marxist type of analysis adds a historical/economic dimension to SSMP, and as such brings an enriching 'external' dimension to the 'materialistic triad'. The validity of Marxist aesthetics, naturally enough, rests on the validity of the fundamental Marxist insights, on whose acceptance hinges most of the considerable, often brilliant work, done the last decade or so in Cahiers du Cinema, Screen, and numerous other journals.

It would be foolhardy indeed to downgrade the understanding of film that has grown from this work. What is in question here is not so much a literal, not to say crude, Marxist reading. As in some of the psychoanalytical writings (see note[24]), so in much of the contemporary Marxist film analysis there is a suppleness, a sense of nuance. The economic infrastructure, so to speak, is not the be-all and the end-all, in the sense that it directly determines everything else (i.e. government, politics, art and culture, religion, ethics - consciousness in general). More attention is paid to these areas, and more to the general complexity, the mutual influences, and so on.

However, as in all of SSMP, so in its specifically Marxist component, a certain common intellectual attitude or mindset is at work. Ultimately, the text can be read, the signs can be deciphered, and this, fundamentally, along the lines of historical materialism, which furnishes the meaning: to wit, a text springs from an ideology, which is the product of class structure, which, in turn, has its origins in the mode of production within a society. Once again, then, we are in the reductive mind process; once again, a highly complex cultural artefact (a film) can, like life itself, be reduced to a known, intellectually mastered, system ....in this instance the Marxist thought system, which is posited as the relevant entity.

And there, of course, is the problem. Many of the thought systems of the contemporary world, structured on very different intellectual approaches, are not about to accept this view, which, however enlightening and productive at certain levels, leaves so much that most people consider essential simply out of

the picture (as it were).

To sum up, then.

If it is true that the great amount of work being done today on film and some of its related areas lacks a focal point, a methodological meeting place, and hence is victimized by a sense of confusion, mutual ignorance, and over-all disorganization, it is equally true that one current (SSMP) within the over-all phenomenon - considered marginal by the majority - has succeeded in achieving, precisely, a kind of unified, consistent approach. More than that, the dynamism and quality of work produced by SSMP has given it enormous prestige in widening academic and research circles.

Moreover, SSMP emerges from a world view, and the intellectual attitude nourishing that world view, of a significant number of people involved professionally in world culture. Indeed, in some ways, it falls into one of the fundamental ages-old intellectual approaches in the mind's attempt to appropriate the 'world' or 'reality'. But it is precisely this approach or attitude which I believe to be inadequate - the substitution, in a sense, of methodology itself for the reality under analysis.

It is an attitude which is prone to falling into what is called the MacNamara Fallacy:

> "The first step is to measure whatever can be easily measured. The second step is to ignore what can't be measured. Third, assume what can't be measured easily is not very important. The fourth step is to say what can't be measured easily really doesn't exist.[25]

In other words, the researcher develops a system, the product of observation and analysis of some particular phenomenon. The system produces enlightening results; it helps explain things. The intellect exults in its partial mastery of that reality. Pretty soon, the explained part becomes the only reality that counts, that is relevant. The system is all sufficient; it explains 'everything' within its own parameters, which, of course, become the only valid one.

For clarity's sake, I am obviously oversimplifying, even caricaturing. And certainly, the combination of the various strands within SSMP can tell us a lot about film, or, say, this or that particular movie. But I believe the limitations are clear enough, once one steps out of the particular world view demanded - and I have tried, however sketchily, to point out some of the inadequacies.

Humanism (again)

As defined earlier on, precisely because it encompasses such a breadth of human learning, with so many intellectual approaches, disciplines, methodologies, alone is capable of placing this or that discipline within its proper context, of cutting it down to size, as it were, when it demands excessive adherence, pretending to 'exhaust' the reality in question. A genuine humanism encompasses both the scientifically precise and the vaguer, more mystical models of learning. Beyond the reductive disciplines, there are other metaphors for the human situation and the role of the intellect within that situation. For it would seem that not only 'poetry', but science as well, have adequately demonstrated that our sensory and intellectual apparatus is being bombarded by an 'infinite' number of stimuli, most of which are still beyond our capabilities, even our ability to be aware that they are there. What we do succeed in capturing - and it goes on expanding - is patterned into knowledge. But it is a limited knowledge, and our human intellects (and hearts) cannot rest there; they go on in their pursuit of the as-yet-unknown. Call it mystery (another forbidden word in much of SSMP) or whatever, but it is clearly beyond the rationalisms of any thought or culture system.

Contrast that with the reductive tendencies of, for example, Freudian psychoanalysis. As Fredericksen points out, Jung's position here is diametrically opposed to Freud's:

> "Archetypal imagery is symbolic because it links us with a living, albeit relatively unknown, realm. This realm is not unknown because we have repressed it; it is unknown because consciousness has not yet, or cannot, reach it.[26]

The unknown realm, in this instance, is the collective un-conscious or the objective psyche. Many philosophies and religions throughout the course of human history have given that notion an ontological, 'outside' referent, to which, in their view, human perception is attuned.

And so, the wealth and variety of different approaches. Hence the intellectual mode and the poetic, the scientific approach and the mystical - one can go on indefinitely in this line. The humanistic spirit cannot engage in a radical reduction, or even denial, of human phenomena just because they don't fit into neat intellectual packages, or even because we are still only vaguely aware of them.

> Behind all the cognitive questions for which men find answers, there lurk the unanswerable ones that seem entirely idle and have always been denounced as such. It is more than likely that if men were ever to lose the appetite for meaning which we call thinking, and cease to ask unanswerable questions, they would lose not only their ability to produce those thought things which we call works of art, but also the capacity for asking all unanswerable questions upon which every civilization is founded.[27]

All of which leads us into the explicity aesthetic dimension, a dimension which at least some proponents of SSMP find difficulty in accommodating, yet which is of the very essence when it comes to film and the filmic process. For whatever else it may be, film is also an art; it has the peculiar and special power to appeal, enthral, as well as communicate meaning. It has power. And it reaches out not only to the every-day and mundane, but also to those vast areas beyond the already known, beyond the already intellectually appropriated.

As part of that world, film - or at least much of what we call film - will always elude total semantic appropriation - that revenge if the intellect upon art, and ultimately upon life itself, or whatever areas of it that the intellect cannot totally master. If the humanistic spirit cannot accept that the only valid contemporary understanding of, say, Shakespeare, consists in the (semiotic) analysis of the function of language (of the text), in the (Marxist) analysis of the socio-politico-historical context that produced the play, and in the (Freudian) psychoanalytic exploration of its imagery and patterns, no more can humanism not challenge similar claims and processes when applied to a masterful film by Ford, Mizoguchi, Renoir, Bergman, Resnais, Antonioni, or by any other film artist who will readily come to any afficionado's mind.

Is there any point, then, in attempting to analyze film? Surely a conclusion as apparently minimizing as the one above might well prove too inhibiting. The way out, of course, rests on one's attitude to the word 'total'. For one can go a long way in understanding reality of whatever order, <u>without</u> envisaging complete appropriation.

How, then, approach film legitimately - at least in terms of the humanistic point of view? Can there be precise film studies? Can one hope to go beyond the cultural 'impressionism' denounced by SSMP? It is, of course, much easier to show the shortcomings of any methodology than to propose a full humanities programme. But try one must, even though one may embark upon such an enterprise on little cat feet, and even though one realizes that the indebtedness especially to some aspects of semiotics, etc., will be dismissed by some as a blatant attempt at 'recuperation by the dominant system'.

A Humanistic Approach

Very briefly, then, and more at the level of basic attitude than achieved practice, I propose the following programme, schematized into three steps, though of course these steps are inter-related, and not meant as formal divisions. The nuts and bolts type of work, needless to add, is still ahead.

1. By all means, begin with a thorough study of text, with as 'objective' a scrutiny as possible. Semiotics can furnish us with many of the tools and findings here, especially, perhaps, in the area of filmic and non-filmic codes. Thorough investigation of the elements and their over-all functioning is of the essence.

   But instead of binding oneself to the philosophical underpinnings and binaristic categorizing inherited from linguistics and structuralism, one must pursue a far more thorough kind of description, sacrificing the intellectually handy 'oppositions', etc., in order to respect the almost limitless shadings, degrees, and complexities that go into most of the combinations of sights and sounds in a film - a loving description of the 'surface', as Susan Sontag used to say, or of what is generally referred to as style, that is, the very texture of a film, the thousand-and-one operative choices a film maker must make.

   That, of course, must be combined with an attempt at mastering the over-all structure of the film as well. The data arrived at will already go a long way in showing us how the film produces its 'magic', how it communicates, how it gives us meaning - and perhaps what kind of meaning it gives us.[28]

2. 'What kind of meaning it gives us' leads us to the second stage. Just as Metz' semiological thrust is of remarkable import, so too is his insistence of adherence to the 'principle of pertinence'. For the data furnished by stage one lends itself to a variety of possible further analyses. Further aesthetic or 'communicational' probing can prove highly rewarding. It is here, too, that the psychoanalytical and Maxist approaches can enter, as two possibilities among so many more. The energy and dedication to scientific rigour of the best work done by SSMP can serve as a model for other disciplines. History of art, other kinds of history, sociology, psychology, philosophy, religion, many of the sciences - the whole cultural, anthropological apparatus, really - are more or less apt, in each particular instance, depending on the

nature of the film, the knowledge, skill, or ideology of the researcher, etc. What is worth repeating, however, is that any approach, any discipline, must be marked by conscious application to its methodology, within its own parameters, always subject to its 'principle of pertinence'.[29]

3. True to the integrating thrust that is essential to the humanistic attitude, the humanities-based researcher should then attempt a modest kind of synthesis or, perhaps more exactly, a situating of the particular discipline or disciplines within a larger context. Ambitious, perhaps, and always somewhat premature, but implicit in this kind of situating is the knowledge of the fragility and above all of the great limitations of the study or analysis done in terms of totally explaining or intellectually appropriating the work of art. One might add that if the particular discipline has indeed reduced the work within the limitations of its own framework, the humanistic situating will then, to a certain extent, perform a reverse operation, resorting to amplification[30], searching out (most likely very sketchily) possibilities of complementing, connecting, and associating with other approaches, other dimensions.

Truly, then, the task, whose complexity is only suggested here, is a prodigious one. It is a humbling one as well, acknowledging the limitations of our intellectual possibilities. For though the intellect is of its very nature endowed with a marvellous ongoing dynamism whereby it ever seeks to understand reality, it must face up to the fact I have stated over and over again, to wit, that total appropriation is beyond its power...that a far vaster reality continually calls it beyond itself.

Our civilization still has unanswerable questions, gropings. Any mind-set or ideology that would pretend to remove this kind of experience or possibility would be espousing the ultimate impoverishment of society and the human spirit. History has furnished, and goes on furnishing, enough tragic examples of that very phenomenon.

All of us, then, involved in film studies, film research, or the analysis of film, are struggling with weighty questions of methodologies and options in our own field. But much more is at stake, or at least implied in that activity. It is nothing less than the human spirit in its encounter with reality, and all that that implies.

NOTES

(1) Wagner, Robert, 'Film Research: The Need for a New Breed', Educational Communications and Technology, A Journey of Theory, Research, and Development, (formely Audio-Visual Communications Review), v. 26, n. 1, Spring, 1978, pp. 65-78.

(2) Ibid. p. 73. Writing about the same time, from a more strictly sociological point of view, I.C. Jarvie paints an even less flattering picture. Cf 'Seeing Through Movies', Philosophy of the Social Sciences, Windsor University (Canada), n. 8, 1978, pp. 374-397, especially pp. 384-397.

(3) Mitry, Jean Esthétique et psychologie du cinéma, Editions Universitaires, Paris, v. 1, 1963, pp. 9-11.

(4) Metz, Christian, Langage et Cinéma, Librairie Larousse, Paris, 1971, pp. 7-10.

(5) Cohen-Seat, Gilbert Essais sur les principes d'une philosophie du cinéma, P.U.F., Paris, 1946, pp. 53 ff. Quoted by Metz, op. cit., as in note 4.

(6) Vernet, Marc and Daniel Percheron, 'Entretien avec Christian Metz', Ca (Cinema), n. 7-8, May, 1975, pp. 34-35. Metz' claims for SSMP's relevance are generally couched in relatively modest terms, but the exclusivity claim is certainly typical of many SSMP proponents.

(7) Cf. Green, Martin 'British Marxists and American Freudians', from Innovations: Essays on Art and Ideas, edited by Bernard Bergonzi, Macmillan, London, Melbourne, Toronto, 1968. p. 160. Green's entire essay, pp. 158-184, makes for rewarding reading.

(8) For a typical statement of this, complete with right tone, and attendant 'correct historical interpretation', cf., e.g. Paul Willemen's 'Presentation', pp. 1-4, to Stephen Neale's study, Genre, British Film Institute, 1980.

(9) Cf. The New Yorker, Dec. 4, 1978, pp. 40-43, for an informative synthesis of Rosovky's viewpoint. Also, Time (International Edition) Oct. 13, 1980, Education Section, 'Up, Humanities', p. 53, for a 'Time' report on Humanities in America, University of California Press, 1980, which synthesizes the findings of a recent major commission on University and pre-University studies - with a strong endorsement of a 'renewed' humanities programme.

(10) The reality, of course, is quite the opposite, as most of the writing today clearly exemplifies. Even in the world of film research ... see, e.g. note 21 below.

(11) A professional encounter with Metz leaves me convinced that that essential attitude (i.e. the serious 'objective' application to 'text') is what Metz really cares about. The particular applications, uses of terminology and jargon, extensions, etc., he finds of definitely secondary import.

When the present writer was defending his doctoral thesis before Metz (as one of the jury members) in 1977, Metz kept insisting that the thesis in question - an analysis of Godard's Bande a Part qua attempt at creating an 'open work' - was 'profoundly semiological', in spite of my deep misgivings about the jargon and so many other matters semiological.

See Metz' relaxed attitude also in Lecture du film, preface, pp. 8-9 1975, or in Vernet and Percheron, op. cit., p. 39.

(12) Cf., e.g. John G. Handhardt and Charles H. Harpole, 'Linguistics, Structuralism, and Semiology', Film Comment, v. 9, n. 3, May-June, 1972, pp. 52-59.

(13) Cf. Peter Wollen's Signs and Meanings in the Cinema, B.F.I., London, 1972, and indeed many of the writings of SSMP that have followed his situating of this approach.

(14) See Jean Mitry, 'D'un langage sans signes', Revue d'esthétique, 1967, n. 23, pp. 139-152.

(15) See, for early examples, J.P. Dumont and J. Monod. Le foetus astral, Christian Bourgeois Editeur, Paris, 1970; or Raymond Bellour's ground-breaking 'Les Oiseaux de Hitchcock: analyse d'une séquence', Cahiers du Cinéma, Oct., 1969, n. 216, pp. 24-38.

(16) Vernet and Percheron, op. cit., p. 37.

(17) My italics. Don Fredericksen's article, 'Jung, Sign, Symbol, Film', Part 1. Quarterly Review of Film Studies, v. 4, n. 2, Spring, 1979, p. 177. The entire article (pp. 167-192) is a remarkable Jungian critique of SSMP; and even a glance at this present paper will reveal how indebted to Fredericksen I am.

(18) Metz, Christian 'The Imagery Signifier', Screen, 16:2, Summer, 1975, p. 14, quoted by Fredericksen, op. cit., p. 177.

(19) For a very recent example in a journal not particularly dedicated to SSMP, see Wide Angle, v. 4, n. 1, 1980, most of which is consecrated to articles 'psychoanalyzing' Hitchcock's work.

(20) Especially, perhaps, in 'Le Blocage symbolique'. Communications, special issue 'Psychanalyse et cinéma', n. 23, 1975, pp. 235-350.

(21) Wide Angle, v. 4, n. 1, 1980.

(22) In the issue of Wide Angle quoted above, for example, one encounters, among many other examples of symptomatic professional jargon, the following: phallic imagery, phallic substitution, phallocracy, the gaze or look, spectatorship, voyeurism, identification, libidinal regression, castration, Oedipal transference, sexual ambiguity, narcissism, frigidity, impotence, taboo, homosexuality, fixation, pairings, etc.

(23) Op. cit., through most of the article.

(24) Fredericksen tempers his critique by referring (op. cit., p. 178), to a new Freudian sense of textual polysemy, whereby analysis leads to no 'solution', but to a whole variety of possible solutions, a 'multiplicity without hierarchy'. See Barbara Leaming, 'Towards a Psychoanalytical Reading of the System(s) fo a Contemporary American Film', Cine-tracts, 1:3, Fall 77 - Winter, 78, pp. 15-29. The reduction now is not to a 'known' (i.e. a specific rendering from the Freudian myth), but to a Roland Barthes-like selfcontained 'joy in the play of the signifiers' (S/Z, The Pleasure of the Text), a kind of no-escape, semiotic vertigo - at once enriching, but terribly limiting, ontologically speaking, with all the philosophical a priori's of the semiotic attitude intact.

(25) Quoted by Wagner, op. cit., p. 71, from R.C. Snider, Is MBO the Way to Go?: A Teacher's Guide to Management Objectives, Washington, D.C.: National Education Association, 1975, p. 15.

(26) Fredericksen, op. cit., p. 183.

(27) Quoted by Wagner, op. cit., p. 73, from H. Arendt, 'Reflections: Thinking', part one, The New Yorker, Nov. 21, 1977, 53 (41), p. 128.

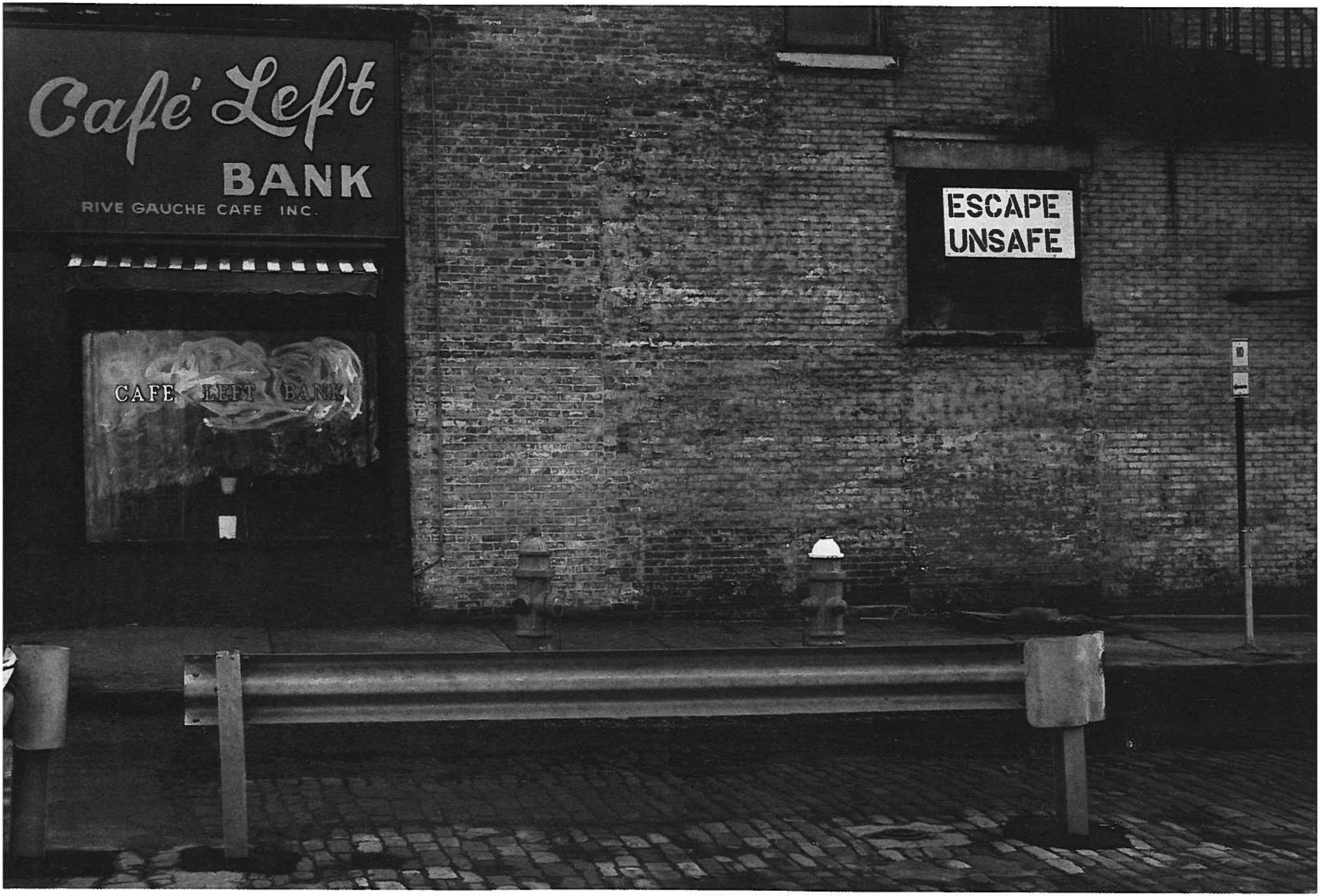
(28) The present writer has made such an attempt, in the doctoral thesis mentioned in note 11. The exact title: La dialectique de l'oeuvre ouverte dans le cinéma contemporain: recherches sur Bande à part, de Jean-Luc Godard, for the Sorbonne

in 1977. Over one thousand pages of script and diagrams, it underlines the great practical difficulties, in terms of accumulated material, size, reproduction, etc. associated with such a task. Its chief merit, I feel, lies in the painstaking thoroughness of the description (as briefly indicated), in addition to attempting to incorporate the two further steps.

(29) For a much more limited example of this approach - one adapted to the requirements of articles in journals - cf. Marc Gervais, 'Ermanno Olmi: Humanism in the Cinema'. Sight and Sound, Autumn, 1978, v. 47, n. 4, pp. 210-215. After describing a few 'symptomatic' segments, I attempt to analyse The Tree of the Wooden Clogs form Olmi's own 'vision', a sort of modern Christian involved humanism (in the Italian socio-politico-cultural context).

(30) See Fredericksen, op.cit., p. 168, for the radical opposition between Freudian reduction and Jungian amplification.

SITES



Photograph by Cyril Ryan

COMPUTER CULTURE:
Enlightenment and Power *

by Maurice Charland

Computer technology is a cultural form, and that form is the Enlightenment. The computer, in its design, is predicated upon and constitutes a form of thought based in reification, quantification, and simulation. The formal algorithmic procedures computer logic follows are the processes of thought the Englightenment would want us to emulate.

The form of thought and life of the Enlightenment is one in which "whatever does not conform to the rule of computation and utility is suspect."[1] Indeed, the development of the computer rests upon the legacy of the Enlightenment and of science's project. It is characterized by a formal and empty propositional calculus in which all knowledge is reduced to information expressible in the binary opposition of 0 and 1, of a non-grounded truth and falsity. The transformation of knowledge and reality to the computer occurs through mathematization and quantification; the program structure is created in Boolean algebra; and the hardware itself, the transistors and chips, are the products of the application of the scientific method and of engineering principles.

Furthermore, the computer is not only the product of the Enlightenment, but embodies the Enlightenment's geist. When activated, a computer exists as a series of processes, of mathematical operations, which mimic pure rational thought. This thought is procedural, mechanical and rule-governed. It possesses the form of pure mathematics without its passion, intuition, or aesthetic sense. As such, computer technology is a projection--or rather an objectification and materialization--of the Enlightenment as a mode of thought. The content of its operations are purely arbitrary. As it processes words, numbers, and patterns, it has, of course, no sense of value and is guided by no will, except the empty will of the program's telos. The will inscribed in computer logic, in the machine's principles of organization and operation, is not substantive but is the will of pure thought - the will to proceed, to process, to continue.

Because computer technology is not inert matter, but has within it the spirit of a dead form of life, it is not only a product of the Enlightenment and the Enlightenment's material objectification, it is also a constituent component of the Enlightenment's reproduction. Computer technology reproduces an Englightenment consciousness in two ways. Firstly, as a machine that "thinks," or more precisely that performs self-regulating

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calculations which constitute it as a system, computer technology perpetuates a form of rationality in the world without the need of a thinking subject. Computer technology bears witness to Horkheimer and Adorno's observation that:

> Thinking objectifies itself to become an automatic, self-activating process; an impersonation of the machine that it produces itself so that ultimately the machine can replace it.[2]

Within all technology we can identify embedded forms of thought - at least a physical logic of that technology's operation. The relationship of component parts to each other, then, exhibit the rationality inscribed within.[3] In computer technology, the design, the operation, and even the component parts themselves are but slightly concrete. They exist primarily as abstractions, as elements of a code, which are material primarily in their force and consequence. As autonomous and automatic articulations of a code of formal reason, computers precisely exhibit Horkheimer and Adorno's "objectification" and "impersonation." Furthermore, the dedication of computer technology to specific tasks, from inventory control to the automatic operation of robot-based factories, continually re-inscribes this form of thought and its consequences into the material world. Thus, in fact, computer technology emulates a form of thought to such a degree that it displaces it.

The second way that the computer reproduces the form of thought which is the Enlightenment is as a machine to <u>think with</u>. To use a computer requires the adoption of a series of practices appropriate to the design of the machine and its programs. This is especially true for the programmer, who must strictly regulate his or her patterns of thought in order to attain the algorithmic precision and rigour required to direct the machine. Programming a computer requires the domination of the mind's procedures by formalized logic. In this very process, critical thought must be at least momentarily cast aside. This is also in many ways true for those who do not program the machine, but only use it as a tool or plaything. While computer technology may facilitate the management of tasks, the calculation of profits, the development of outlines, and indeed the composition of essays, its underlying logic is one of method, of hierarchization, and of maximization. At the very least, computer technology is, like the Enlightenment, mute as to the content of its thoughts, even while it demands a more coherent, rationalized, and efficient processing of them. Spreadsheets and management software favour bureaucratic rationality, outline organizers favour logical argumentation, and word processors favour the efficient encoding of thought as they transform it.

Computers, as machines to think with and through, also reproduce the form of thought of the Enlightenment as they permit simulation and fantasy play. The formal liberation of the imagination which computer technology offers is one in which the world of the body vanishes. As computers simulate reality or transcend it and offer their own hyper-reality, the self becomes a free-floating cogito. The Descartian dichotomy becomes complete in the pure autonomy of the sign. In a similar manner, the very process of simulation obsolesces and replaces the objects of thought with their simulacra. As Horkheimer and Adorno write of the Enlightenment:

> Abstraction, the tool of the Enlightenment, treats its objects as did fate, the notion of which it rejects: it liquidates them.[4]

As such, computer simulations, be they of corporate profits or of Star Wars, proceed with utter indifference to the lives which, notwithstanding simulation, would be lost. Indeed, this process is one in which meaning itself tends to vanish. Simulation, as the perfection of Enlightenment thought, which would capture the very essence of things, abandons that essence to the ungrounded logic of semiotic play. Thus the fantasy world of simulation provided by computer technology becomes, as Horkheimer and Adorno wrote of science,

> . . . aestheticism, a system of detached signs devoid of any intention which would transcend the system: it becomes the game which mathematicians have for so long asserted is their concern.[5]

Computer technology, as it is instantaneous and interactive, contains, like the Enlightenment, an emancipatory moment. In the game of detached signs, we have the possibility of free choice; we may design our own software or choose it to satisfy our needs. The mind can create its own realities and play in apparently unbounded vistas. In this sense, the technology is liberating. However, it is but a liberation of the mind to contemplate its processed self. As Gratz and Salem put it, "interaction between a person and a computer is a narcissistic act."[6] However, the technological mediation of this narcissism is transformative and constitutes the user as the subject of the discourses these computational processes articulate. The computer is not a neutral reflector of the self, holding it up as an object of contemplation and desire. Rather it offers a representation of the self through the Enlightenment's principle of reification. The possibilities of thought and desire are restricted in the closed interaction of the person and the machine. The computer and its operator form a self-contained subject constituted in logocentric symbolic

exchange and play. Indeed, the form of language which the Enlightenment offers, and which computer technology purifies, is one whose perfection, in Kenneth Burke's sense,[7] would imply the absence of a subject. The subject would be displaced by the automatic and logically necessary response, the subjectless pure procedure of the PAC-MAN master.

II

Computer technology, as the materialization of the Enlightenment, simulates a reality it simultaneously displaces or annihilates. This "reality effect" and the concomitant constitution of a narcissistic reified subject is a consequence of the technology's formal properties--of the very logic of the Enlightenment. These consequences of the formal properties of computer technology do not, however, fully express the substance of the cultural form computer technology engenders. My analysis of that form is up to this point incomplete because cultural forms do not exist exclusively in sign systems. Cultural forms exist concretely, within history, and are constituted through human practices. The cultural form of computer technology is more than simply the Englightenment logic upon which it is designed and which it reproduces. That form only acquires its materiality as the technology, as hardware, as rules of procedure, and ultimately as a series of discursive procedures discourse, is inserted into the sphere of practice. And that insertion, like the operation of the technology itself, is discursive. Furthermore, it is rhetorical.

To understand the cultural form of computer technology and gain insights into its inner dynamics and contradictions, we must be attendant to the rhetorics which inscribe it into the world of practical activity, and which constitute the logics and motivations of its use. Technology does not exist in culture as some pure form, as some self-contained langue over-determining its parole, autonomously constituting its raison d'être. Rather, the cultural implications of technologies arise because technologies exist contextually and are given meaning in technological rhetorics. Technological rhetorics are persuasive discourses which seek to promote a technology's adoption by presenting it as valuable and necessary to a potential user. They inscribe technologies within value-rational discourses as they justify their use in terms of extra-technological ends. Thus, technological rhetorics give technologies social meaning and so permit their adoption, as Carey and Quirk demonstrate in their analysis of the rhetoric of electrification and the Tennesse Valley Authority, and as Leiss demonstrates in his examination of Bacon's legitimations of natural science.[8] Such rhetorics are not, however, independent of the logic or inner dynamic of the technologies they promote. Rather, these

rhetorics will ultimately interpret these inner logics in terms of the larger cultural matrix. Thus, it is precisely in the rhetorical insertion of a technology into the world of practice that the dialectical tension between technology and culture will become apparent.

Technological rhetorics, as they seek to persuasively present technology as worthy of use, must also accommodate potential users to the technology. As these rhetorics attempt to justify and render reasonable the adoption of and the concomitant submission to a technology, they must reconstitute their audience in terms of that technology. Thus, for example, Bacon not only wrote of the value of the scientific method, but sought to inculcate the scientific attitude in men.[9] He sought to reconstitute the intellectual culture of his day in the mirror image of the techne he advocated. Similarly, the rhetoric of the CPR in Canada sought to create a nation in the image of the state's sytem of communication.[10] Because technologies exist only as practices, the rhetoric of computer technology will constitute its users in terms of that technology's possibilities and constraints as culturally circumscribed.

As Adorno and Horkheimer make clear, the Enlightenment ultimately cannot sustain any transcendent value system as justification of its project. This does not, however, render computer technology value-free. Rather, the technology offers pure instrumentality and a will to reification, even as it dissolves any political or social ideal which would guide it. Thus, within a capitalist economy based on possessive individualism, in which human autonomy and the liberal individual are ideologically valorized, computer rhetoric offers freedom which it ultimately renders meaningless and annihilates. The rhetorics of computer technology echoes the Enlightenment's dialectic as it offers a form of emancipation which is but a submission of the will to power.

The tension of this dialectic is revealed in the paradoxical promise put forward by the rhetoric of computer technology: that of a return to a utopian individual autonomy, and that of a technologically constituted future. The return to utopia is a common theme of technological rhetorics. As Judith Williamson notes, technology and science, at least in our technological culture, are represented as providing access to nature, as permitting the recovery of a natural state which paradoxically they and civilization occult.[11] Similarly, as Leiss demonstrates, nature science was promoted by Bacon as a means for man to recover powers and the utopian Edenic order which preceded the Fall.[12] This nostalgia for utopian simplicity can be seen in IBM's use of Chaplin's Tramp, for example, as it introduces its personal computer (Ad 1).

Computer technology becomes a way of acceding to a simpler and more innocent past. As such, the rhetoric of computer technology shares much with what Carey and Quirk term the "rhetoric of the electric sublime" in which electrical techniques would be "the key to the re-creation of a humane community, the means for returning to a cherished naturalistic bliss."[13] But unlike electrification, tied overtly into the collectivizing grid of power transmission lines, computer rhetoric offers individual rather than communal growth and development.

The individuation of electricity's nostalgic utopian vision can be seen in IBM's advertisement promoting the simplicity of computer technology (Ad 2). The photo is of a 1950's suburban scene. A little girl, with her father by her side, is learning to ride a bicycle. Her family smiles encouragingly as she masters the bicycle and attains new freedom. The text likens computer to bicycle as it speaks of initial difficulties followed by freedom and unbounded horizons. In the development of the Personal computer, we find the perfection of the Enlightenment and capitalism's ideological valorization of individual liberty. The computer's pure instrumentality would liberate the subject from the social bond and its attendant commitments. The girl will ride away from home to discover the liberation of possessive individualism in the corporate world, just as the bureaucratic manager is promised the right to Chaplin's playful idiosyncracy (Ad 3). Note that IBM's "Personal Decision" software "gives you choices"; it is "perfect for people who insist on doing things their own way." However, the "emancipated" subject of this computer mediation is not Chaplin's playful and irreverent tramp flying upside-down in a yellow bi-plane in a display of non-instrumentalism. Rather, it is the manager with rolled up sleeves before the screen, as displayed in a small insert on the software package. He is constituted through the possessive and acquisitive will the product is tailored to. The product and machine are designed for a subject and will which is projected onto the computerscape.

In its pure state, rationality, like the cycles of a centra processing unit, are devoid of intention or will, save the empty will to continue processing. In its historically concrete form, however, as Horkheimer and Adorno argue, the Enlightenment's inability to consider meaningful statements of value reduces it to a pure instrumental will goaded on by the motive for self-preservation.[14] As such, the Enlightenment, as it yields to a culture of sheer technique, finds its perfection in the will to power. Power, at least in the formalized world of signs and their manipulation, is precisely what computer culture offers. Computer technology, as a means of accomplishing tasks, becomes a means for the will's self-expression. This is computer technology's utopian and emancipatory promise. But under the

sway of the logic of pure instrumentality, emancipation becomes transformed. The will the computer liberates is not seeking Charlie Chaplin's play, but the cathartic rush of dominating a world it has created.

In the call for us to "unleash the powers of Adam," we are invited to subject the technology to our mastery, and so gain control of its magic. It renders routine tasks of calculation (homework, budgeting, bookkeeping) mundane and insignificant as it invites us to contemplate the fantastic. Computer technology, as it materializes the Enlightenment's principle of abstraction, offers the will a hyper-reality, a pure sign system, to have mastery over. This appeal to the will to power and the valorization of the experience of domination displaces the rhetoric of the electric sublime's pastoral nostalgia as Apple offers us the opportunity to test drive a Macintosh (Ad 4). In these advertisements, the gloved hand becomes our own through the rhetorical effect of identification,[15] as it provides us with a physical linkage to the simulacrum. The liberating instrumentality of the computer as tool gives way to the aestheticized image of computer power. IBM's bicycle-computer as liberating means gives way to Apple's grand prix-computer as exhilirating end.

Chaplin's Tramp and the rose alongside the IBM PC he contemplates present the logic of personal computers as innocent. It would offer a realm of play, a form of simulation. But inscribed within the logic of data manipulation and control is a power principle which the call to test drive a Macintosh reveals. When we test drive a Macintosh, we must sacrifice some of power and some of our body's rhythms in order to accede to this world of pure thought. We gain computer power by becoming enmeshed in the exclusionary rule of the Enlightenment. Indeed, a consequence of all technology is that it submits us to the logic of its own power. The Macintosh test drives us.

Certainly, personal computer technology permits a representation of this order of power as somewhow non-exclusionary, as being a power without domination. The personal computer can be represented as empowering, rather than processing, the liberal individual. Such representations rhetorically seek to constitute us as subjects in a computer culture in which we would be at the center of its logic, and its power would emanate from our being. However, rhetorical representations of a technology do not, in and of themselves, constitute the cultural form of that technology. While technologies depend upon rhetorics to insert them into the world of practice, they operate upon those rhetorics. Thus, computers only are liberating within the presence of the needs they promise to satisfy. In order words, the rhetoric of computer power

appeals to us by offering control, while asking nothing in return except that we become the very being it represents itself as liberating.

The liberation of thought and action by computer technology, as a form of Enlightenment, does not restrict itself to the sphere of play or even domination within a sign system. As the reified logic of computer technology reenters the world of social practice, it turns ugly. Instrumentality and the will to self-preservation and power take on a different cast - that of fearful aggressivity. Computer technology becomes indispensable in a world characterized by an insrumentalist spirit. As an advertisement for Data General states: "If you are buying yesterday's technology, will you be putting your company on the brink?" (Ad 5) This ominous question is amplified by a visual of a sky-scraper, the sign of corporate power by excellence, teetering on the edge of a precipice. This advertisement finds its mundane echo in those promotions of home computers which depict them as necessary prerequisites to successful studies.

In the race for data mastery, it is hardly surprising that in Zenith's vision, the micro-computer has sprouted wings and is transformed into a USAF fighter (Ad 6). There is no sense of play in Zenith's Z-120, designed "to outperform the merely superior." The test ride is deadly serious. Computational power and the formal calculus of Enlightenment reason do not remain inscribed within a detached aesthetic field. It does not because, while it permits the positing of its own simulated reality in which nothing matters but the ludenic spirit, it remains tied to an instrumentalist logic. That logic creates the possibility of technological development and guides its applications and utilizations.

The paradoxical promise of computer power is that it offers absolute autonomy and liberation within a framework of instrumentality and domination. Personal computers offer individuality precisely because, following the Enlightenment's drive to reification, they create a space for play in a private semiotic universe. The identificatory principle which permits us to participate in literature, film, and television has free reign in an interactive and responsive universe. Simultaneously, however, the technology inscribes its user within a vortex of domination. The computer becomes a magical instrument which promises ultimate control over the reality which it permits the user to create. The possibility of controlling the semiotic universe the technology offers, in the absence of any guiding motive, leads to a competitive play culminating ultimately in a destructive urge. Furthermore, the inner logic of domination, so well displayed in the arcade version of Star Wars, finds its counterpart of the screen in the social site of the technology.

The total performance of computer technology is the total performance of the jet fighter, as it is the competitive will to dominate semiotic and material worlds, in the culture of corporate capitalism. The very logic of the Enlightenment, the dialectic of its promise and self-destruction in a will to self-preservation which has turned vicious, circumscribes and is inscribed within computer technology as a cultural form.

NOTES

[1] Max Horkheimer and Theodor Adorno, The Dialectic of Enlightenment, 2nd ed., trans. John Cumming (New York: Continuum, 1968), p. 6.

[2] Ibid., p. 25.

[3] I have in mind here an observation of McLuhan's that technologies, as media, have transformative capacities. Thus, for example, the printing press has embedded within it the logic of repeatability or of mechanical reproduction. See, Marshall McLuhan, Understanding Media: The Extensions of Man (Toronto: McGraw-Hill, 1964). I would also suggest that other forms of rationality besides the purely instrumental can be seen in the design of technology. Mythic, religious, and aesthetic logics are also inscribed in technologies and artifacts.

[4] Horkheimer and Adorno, p. 13.

[5] Horkheimer and Adorno, p. 18.

[6] Robert D. Gratz, and Philip J. Salem, "Technology and the Crisis of Self," Communication Quarterly 32 (2, Spring 1984): 102.

[7] As Burke puts it: "The principle of perfection (the "entelechial" principle) figures in other notable ways as regards the genius of symbolism. A given terminology contains various implications, and there is a corresponding "perfectionist" tendancy for men to attempt carrying out these implications. Thus, each of our scientific nomenclatures suggests its own special range of possible developments, with specialists vowed to carry out these terministic possibilities to the extent of their personal ability and technical resources. Each such speciality is like the situation of an author who has the idea for a novel, and who will never rest until he has completely embodied it in a book. Insofar as any of these terminologies happen to contain the risk of destroying the world, that's just too bad (italics mine -- mc); but the fact remains that, so far as the sheer principles of the investigation are concerned, they are no different from the writer who strives to complete the novel." See, Kenneth Burke, Language as Symbolic Action: Essays on Life, Literature, and Method (Berkeley: University of California Press, 1968), pp. 16-22.

[8] James W. Carey and John Quirk, "The Mythos of the Electronic Revolution," American Scholar 39 (1, 1970): 219-241; (2, 1970): 395-424. William Leiss, The Domination of Nature (Boston: Beacon Press, 1972).

[9] Leiss, p. 46.

[10] Maurice Charland, "Technological Nationalism," Canadian Journal of Political and Social Theory, forthcoming.

[11] Judith Williamson, Decoding Advertisements: Ideology and Meaning in Advertising (Boston: Marion Boyars, 1978), pp. 103-137.

[12] Leiss, pp. 48-57.

[13] Carey and Quirk, p. 221.

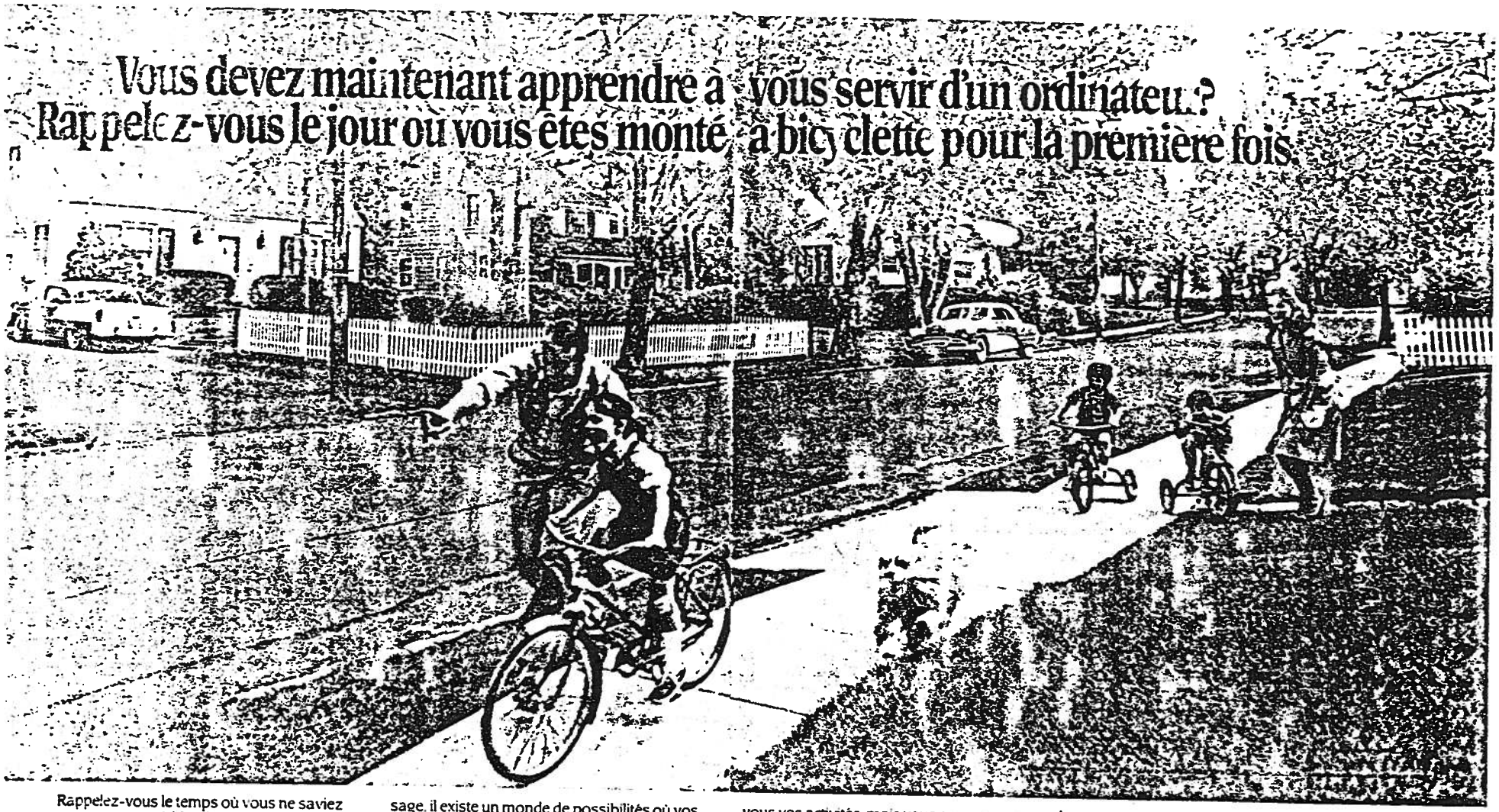
[14] Horkheimer and Adorno, pp. 83, 90-91.

[15] Kenneth Burke, A Rhetoric of Motives (Berkeley, University of California Press, 1950), pp. 55-59.

Simple answers to your questions about IBM Personal Computers.

Ad 1

Vous devez maintenant apprendre à vous servir d'un ordinateur.? Rappelez-vous le jour ou vous êtes monté à bicyclette pour la première fois.



Rappelez-vous le temps où vous ne saviez pas encore monter à bicyclette. Vos horizons étaient limités. Vous pouviez aller jusque là, mais pas plus loin.

Puis, un beau jour, papa a cessé de vous guider et vous a laissé aller. Vous étiez seul. Vous étiez libre. Désormais, le monde était à votre portée.

Apprendre à se servir d'un ordinateur c'est pareil. Vous ferez sans doute des erreurs. Mais une [illegible] apprendre à l'utiliser ne sera pour la vie [illegible] au-delà de la peine de l'apprendre.

sage, il existe un monde de possibilités où vos horizons sont presque illimités.

Vous pouvez vous servir dès maintenant d'un ordinateur personnel IBM pour planifier plus facilement votre avenir.

Vous pouvez aussi utiliser l'un des nombreux systèmes IBM pour échanger de l'information avec d'autres ordinateurs, dans votre bureau, dans tout le Canada ou dans le monde entier.

Même dans une petite entreprise, presque tous les aspects de votre travail seront simplifiés et améliorés. Ainsi, non seulement contrôlerez-vous vos activités, mais vous serez en mesure de prévoir bon nombre de situations.

Bref, avec toute la famille des ordinateurs personnels IBM, vous avez en main les atouts nécessaires à la croissance de votre entreprise.

Une fois de plus, la technologie IBM vous permet de vous dépasser et de pousser plus loin votre maîtrise du temps et de l'information.

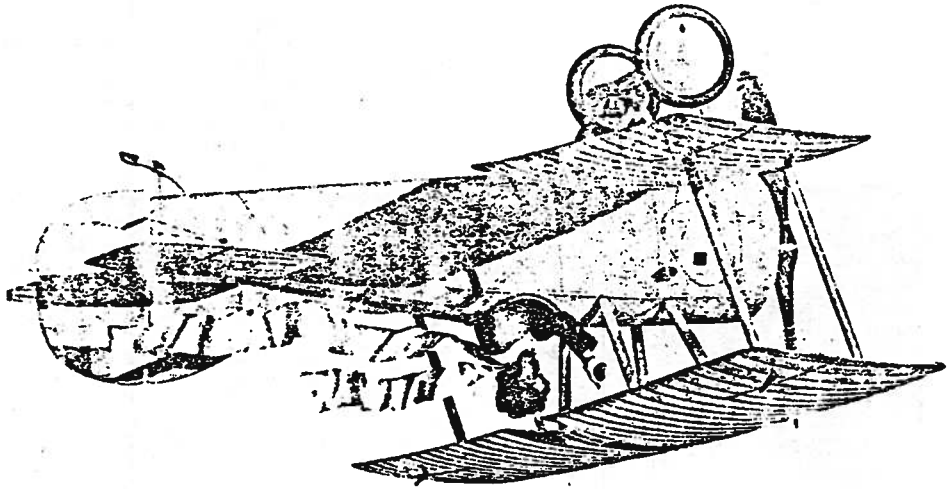
Cela vaut-il la peine d'apprendre à utiliser un ordinateur?

Cela valait-il la peine d'apprendre à monter à bicyclette?

IBM

130

Ad 2



Introducing PC software based on the curious notion that the right way to do things is any way you want to.

IBM's new Personal Decision Series. A powerful team of business programs designed for exceptional flexibility.

There's rarely one best way of doing anything.

Rather, lots of very good ways: a reality that IBM's Personal Decision Series handily accommodates.

More than any software we know of, it gives you choices. You tailor it to your needs, instead of vice versa.

You begin with *Data Edition*, a program that not only manages huge amounts of information, but lets you take it from a surprising variety of sources: data banks, mainframes, even files created by other PC programs.

And you can retrieve your data in nearly any form you like, without a lot of headscratching. You can begin producing real work in a couple of hours.

Add *Reports*+ and you can create your own style documents, pulling facts from up to 6 *Data* files at a time, in formats you can design, for applications you can invent.

Graphs gives you a choice of 13 graph styles, with over 20 variations. And you can update old graphs without having to make new ones.

There's also *Plans*+ for financial modeling and spreadsheets, and *Words* for putting your sentences, numbers and graphs all together.

The Personal Decision Series can even take information from a number of non-Series programs. So if you already have a favorite spreadsheet or writing program, you may still be able to use it.

You can even use files from an IBM System/36 or System/370 computer, by adding an *Attachment/36* or */370 Edition*.

All of which is perfect for people who insist on doing things their way.

Do you know somebody like that?

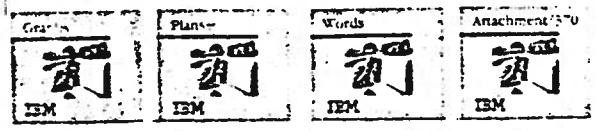
To learn more, call an IBM marketing representative, or visit an IBM Product Center or authorized IBM PC dealer.

For the store nearest you, and a free brochure, call 800-447-4700. (In Alaska and Hawaii, 800-447-0890.)

With IBM's new Personal Decision Series, you start with *Data Edition*, adding others, like *Reports*+ or *Plans*, as you like.

For even more help, you can add *Approach, Current Client Time/Cost Accounting*, and *Prospect Tracking Editions*.

Also, the Personal Decision Series works with data from IBM's new *Business Management* series, a powerful family of accounting programs.



And ask about IBM Extended Support services, a way to get software updates and telephone assistance direct from IBM.

Ad 3

Take a Macintosh to your office for a free test drive.

When we introduced the Macintosh™ business computer, we told you that if you knew how to point you already knew how to use it.

And while tens of thousands of business executives have since demonstrated to themselves that Macintosh is indeed the world's easiest-to-use business computer, a few skeptics remain.

So to prove our point once again, we're going to put our computer where your business is.

For a limited time, you can walk into any participating authorized Apple dealer and walk out with a Macintosh.*

Free of charge. With no purchase. And only one obligation. (You'll have to bring it back when your test drive is over.)

Along with the Macintosh, you'll be able to roar through some of North America's most popular business programs.

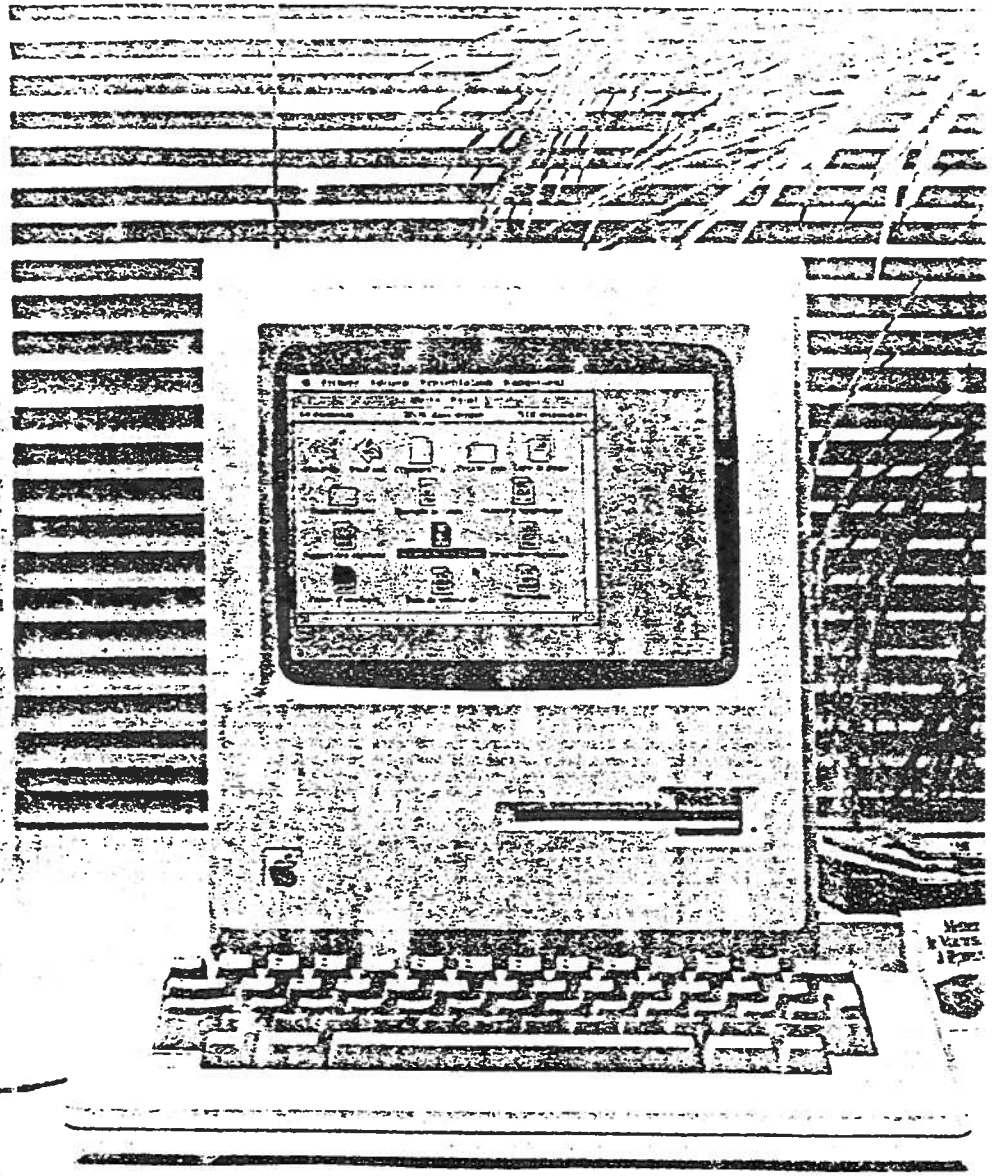
Including Microsoft Chart and Multiplan. Not to mention our very own MacProject, MacWrite and MacPaint.

Which means you'll be able to experience first hand, in the privacy and comfort of your own working environment, just how much your finger already knows about computing. And just how much a Macintosh can do for your business.

So race over to your participating authorized Apple dealer today. Take a Macintosh back to your office.

Open it up. And leave the competition in the dust.

Macintosh™



*Les modalités conditions de crédit et durée d'essai peuvent varier d'un distributeur à l'autre. Les frais de livraison ne sont pas compris.

Apple, le logo Apple, Macintosh, MacWrite, MacPaint et MacProject sont des marques déposées de Apple Computer Inc. Macintosh est une marque de commerce sous licence de Apple Computer Inc. Multiplan et Microsoft Chart sont des marques de commerce de Microsoft Corporation.

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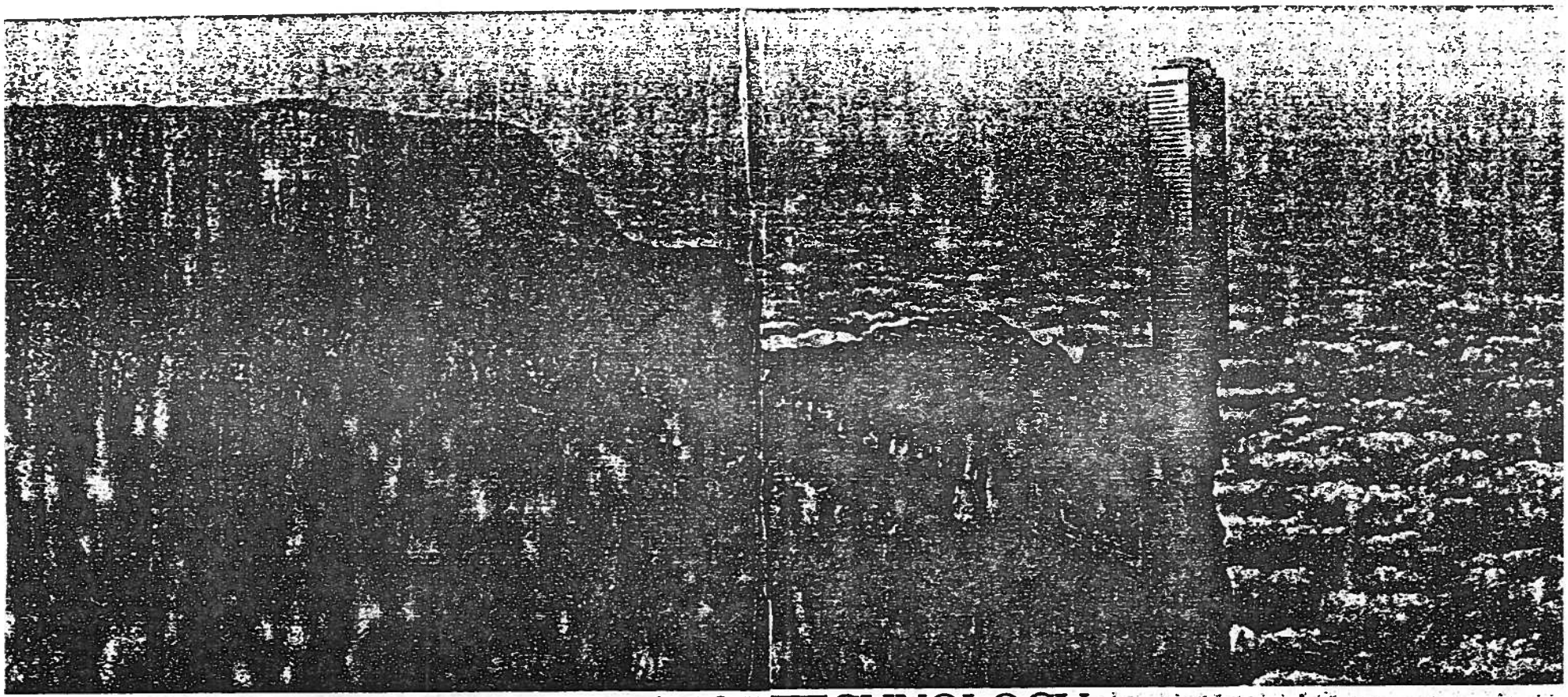
Ad 4



IF YOU'RE BUYING YESTERDAY'S TECHNOLOGY... ...WILL YOU BE PUTTING YOUR COMPANY ON THE BRINK?

FOR ADVANCED COMPUTER SYSTEMS
TALK TO DATA GENERAL.
IT'S WHY WE'VE WON MORE MAJOR INTEGRATED SYSTEM CONTRACTS
THAN ANY OTHER COMPANY.*

The choice of a computer system may be the most crucial decision a corporation can make. And companies such as Beneficial Finance, Pactel Communications, Centel and E.F. Hutton selected Data General.

TODAY'S BEST VALUE

From our DATA GENERAL/One™ portable to our powerful superminis. Along with our unparalleled software and our CEO® office system, we offer a comprehensive computer value. That's why our automation systems for business and industry are leaders in price/performance.

PROTECT YOUR CURRENT INVESTMENT

With our systems you can use your existing equipment and protect your current computer investment. Because Data General is compatible with IBM and works with most other major makes of computers.

What's more, Data General ties into almost any industry standard computer network. Which puts all your equipment, regardless of make, on speaking terms. And makes your entire information system more productive.

SOLID SUPPORT FOR THE FUTURE

Our support and service is advanced too. So you'll always use our technology to its highest potential. And our high priority on research and development will keep your systems a generation ahead of everyone else's.

Can you risk being caught on the brink with yesterday's technology? To stay on solid ground, talk to Data General at 1-800-DATAGEN or write: Data General, 4400 Computer Drive, Westboro, MA 01580 M-S C228.

Data General
a Generation ahead.

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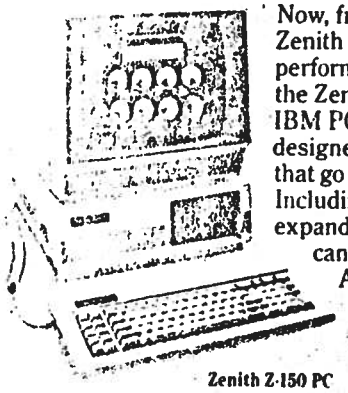
Ad 5

When the Air Force demanded Total Performance, Zenith delivered.

Total performance. It's the only option for the U.S. Air Force. To measure up is to outperform the merely superior.

After extensive evaluation, the Air Force selected one official stand-alone microcomputer. The Zenith Z-120 desktop.



Zenith Z-150 PC

Now, from the same tradition as the Zenith Z-120, come the "total performance" business computers: the Zenith Z-100 PC's. They're IBM PC-compatible, but are designed with enhanced features that go beyond IBM PC compatibility. Including greater internal expandability. Storage that can expand up to 11 megabytes. A detached keyboard with an improved key layout. The ability to run virtually all IBM PC software. And much more.

For your free Zenith Z-100 PC Information Kit and the name of your nearest Zenith Data Systems dealer, call

1-800-842-9000, Ext. 1

ZENITH | data systems

When Total Performance is the only option.

REPOSITIONING THE COMPUTER APPARATUS: TRANSCODING AND SOCIAL PRACTICE *

by Martin Allor

I'd like to begin by referring to two images. In the first we are confronted by an old friend, Charlot - Chaplin's tramp - who perfoms old business in a new age. Slapstick, mime and memory condense around the anchor point of an IBM PC, a tool for modern times. In the second image we're told an old story in a new way. As we watch the drones of Metropolis or of Winston Smith's 1984 file through a monotone mise-en-scène to join in a celebration of Big Brother's image, something new occurs. A young woman, blond, athletic (a perfect yuppie) enters the scene, hurls a hammer through the screen, and announces a new age - the Apple Macintosh. I begin with these images not to focus on advertising per se nor to look at the differences of corporate strategy. Rather, what I want to suggest is that in order to come to terms with the impact of computer technology we need to consider it first and foremost as a social machine - as something more than chips and programs, screens and keyboards. Beyond any instrumental use, computers embody a set of social relations and work to rearticulate existing social practices. These two images represent powerful examples of part of that process; they are discursive articulations of technical machines within particular images of social being. The existence, then, of computers as cultural forms can't be separated from the processes through which they are yoked to and shift existing social practices and cultural forms.

My purpose here is to sketch out a direction for the analysis of this process, focusing on the mediations between the instrumental machine and its emergence in different social practices: practices located in contexts as different as the home, the defence establishment, the primary school classroom and the office. In order to describe this social machine and the complex process of its construction, I'll make use of the Foucauldean concept of apparatus. Foucault defined apparatus as:

> a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions — in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements (Foucault, 1980, p. 194).

* presented at the Canadian Communication Association Convention, Montreal, June, 1985

The computer apparatus then is both discursive and non-discursive. More particularly, the apparatus, the social machine, is constituted in the ways in which discourses work over the instrumental machine itself and articulate its mode of insertion into people's lives. Several things follow from this perspective. First, the social articulation of computers is both complex and multi-leveled, involving at the same time multinational corporations and subterranian subcultures of users. Second, computer technology isn't monolithic. There are key differences between mainframes and home computers and the contexts of their uses. Too often critical writing on the information age gets caught up in the terms of that discourse, missing points of contradiction and struggle. Third, and most important, in terms of the social and institutional contexts of its construction, the computer apparatus is mobile. That is to say that its meaning and extensions aren't completely fixed. For example, a computer system that offers solutions (educational software for the classroom) can at another level cause problems (a disruption of a teaching paradigm.)

I also want to argue that an analysis of the functioning of the computer apparatus offers us a key example of the functioning of ideology. Computer technologies show us the ways in which existing social relations are rearticulated in connection with new instrumental techniques: techniques which ultimately operate under old logics of power. The main discursive element of this ideological process is a kind of trans-coding or discursive placement. That is, new machines in our social environment function to induce change at the same time as they seem to offer us an extension of old ways of living. As these discourses place the new machines in relationship to comfortable preexisting maps of meaning and practice, they hide the ways in which computer technologies work to extend the commodification of leisure time. To return to the IBM commercials, we can see that they appropriate the image of the tramp and even the title "Modern Times" and reverse the tramp's relations with technology. Computer technology becomes the solution to the problem of the mechanical age. In other ads, the computer becomes just another appliance, a domestic time and energy saver. In a striking print ad, IBM offers us images of fifties suburbia: the safety of the two wheeled bike and the nuclear family (for a more general discussion of the discourse of technology cf. Finlay, 1983).

For analytic purposes it is possible to isolate three moments in the process of articulating and transcoding computers as social machines. The three contexts are those of: design and production; marketing and networking; and consumption and use. These moments aren't ontologically separate, but they designate three different phases in the construction of the

social computer. Each phase can be seen as involving a different modality of transcoding, different aspects of the apparatus. Finally there can be a kind of cascade effect as one moves from the first moment to the third: significance attached to a machine in its construction and hard wired logics of operation pass through to the other contexts. But in looking at the differences between these moments, it's possible to reach a more complete understanding of the interaction of technology and social practice.

The Context of Design and Production

New communications technologies don't emerge in economic, political or discursive vacuums. Following Raymond Williams (1974) and others (cf. Slack, 1984), we can say that the design and construction of specific technologies already embody social relations. That is instrumental machines are developed to meet known needs and are targeted to existing and/or envisaged markets. In the case of computers, we can see that they have emerged within the immediate environmental and institutional needs of scientific research, the military industrial complex, and the large corporation. Once past the basic research stage, innovations in computer technology have occured within the specific context of the agendas of large organizations.

This social production, however, also takes place within a wider discursive field. The birth of the modern computer after World War II was coterminous with the emergence of information theory in the work of Shannon and Weaver and others. The discourse of information and the information age is quite powerful throughout our society, but it is especially so at the moment of design and production. Moreover, the discourse of information works through a kind of double articulation. Information suggests a certain contextualization of signs and knowledge. It places them within a binary logic, within the terms of an exchange (information transfer) and without any sensitivity to social difference (a bit is a bit). From a discursive point of view, we can see how information has come to transcode a heterogeneous set of innovations. As a systems theory based discourse, that is to say apparently non-specific and general, information is capable of pulling any product or process into the orbit of its discursive register. Hollywood films become software. And significantly, this apparently 'neutral' discourse allows engineers, programmers and marketing specialists all to use the same terms. Information equals binary exchange which equals commodity exchange. Within the terms of this discourse then, circuitry design slips easily into the logic of capital accumulation.

With Kevin Wilson (1984), we can see how Videotex is being developed with an eye towards the informational commodity; the economics of the system are tied to the sale of consumer profiles (just more bits). To take a recent example of a Canadian executive, here's Robert Bandeen, Chairman of Crown Life:

> Information is the next most important resource in the industrial society. In the information age we have an economy based on a resource that is both redeemable and self-generating. With more powerful information systems on the horizon and with more and more people engaged in producing information, our problem will be to avoid being inundated . . . New businesses will spring up-information utilities, so to speak-which will sort and catalogue data for sale to customers (Newman, 1985).

So, although the engineers who design computers work on the instrumental machine (cf. Kidder, 1981, for Data General engineer's quest for a 32 bit mini), their creations embody a wired-in social logic beyond circuitry or operating systems: a collapse of sign and commodity.

The Context of Marketing and Networking

Advertising is the most obvious modality of this moment of the computer apparatus. But it involves other important discursive forms as well: the popular scientific press, the trade press, special interest magazines, computer columns in daily newspapers, computer clubs, and networks. These forms work by legitimating the place of the instrumental machine, both by placing it in relation to existing images of value and social practice, and by 'preferring' certain modalities of use.

If one looks more closely at the discursive work of advertising images of computers, one sees transcoding in its purest form. In a real sense advertising normalizes the computer by treating it, representing it, in the same terms as any consumer commodity; the home computer is domesticated as its ads fit in with the flow of the other machines we see on television. The ads work in much the same way as dreams work: through condensation and displacement. That is the technical machine is collapsed, both visually and rhetorically, into other social machines, into the everyday world as it's represented on television and in magazines.

Looking at these ads one can discern a repertoire of transcoding forms. Some ads focus on the machine's solution of instrumental problems. In the case of home computers this often involves the creation of the problems to be solved as well. Some

ads work by condensing the machine into safe cultural images. For example, IBM's imaging of the ideal fifties suburbia mentioned above or even Apple's image of the test drive. A third form of ad work is one of the oldest: social fear. So, we are told that our children will be left behind unless we purchase a machine for them. A fourth logic is simply the extension of the general logic of the information age itself. In taking the information revolution for granted, it redefines the field of the social and, hence, positions the computer at the center of a changed social environment. A fifth and perhaps the most powerful form of discursive placement is one in which particular visions of the new are tied to the old through the intervention of the apparatus itself. The copy for a recent ad for Compuserve, one of several popular telephone based computer networks, reads: "Last night, 39 musicians had a Compuserve conference so did 31 M.D.s, 49 sports fans and 640 apple polishers, and no one had to leave home: (Micro 80, 1983). Here we can see the offer of the fulfillment of John Dewey's Public, eclipsed by steam and electric technology, and resurrected by the chip.

These forms of transcoding work, then, both in advertising and in other ancillary discursive forms, to silence certain possibilities of the instrumental machine, for example, the alternatives developed by community activists (cf. the community memory project in Berkeley California). In addition, they channel the user back into the binary logic of the corporation. Compuserve is a subsidiary of H. & R. Block; the Source is owned by Reader's Digest. In interaction with the wired-in logic of the instrumental machine, these forms of transcoding work to articulate an official logic, a restricted range of sanctioned uses. This official logic works to place the machine within particular spaces in the social life-world and polices its possible interventions.

It would be a political mistake, however, to leave off the analysis here. To do so would risk overestimating the holding power of these discursive tropes; it would miss the possible sites for intervention at the level of grounded social practice, where micro-collectivities draw upon the contradictory resources of existing cultural forms and the contradictions of daily life.

The Context of Consumption and Use

Any student of the history of media knows the record of unintended consequences and contradictory impacts of technological innovation. The capture of radio broadcasting within the global logic of a master voice and a dispersed audience has a subterranean resistance in community, pirate and free radio movements. Even given the powerful logic of the computer apparatus, we remain obstinate users. People take up the social machine within the official logic, but with profane purposes. That is the machine is always enacted in the contradictory spaces of daily life. There are two levels to look

at in this most mobile aspect of the computer apparatus: social practice and social subjectivity.

At the most basic level we can see that the computer, both as instrumental and social machine, is inserted into grounded social practices: play, investigation, task resolution, the quests of hackers. The specificity of these practices and their location within particular concrete social relations offer at least the possibility of negotiation and resistance to the offical logic. Most commonly this resistance emerges when the immediate social environment provides the resources of competing counterdiscourses, or a particularly contradictory site for the insertion of the machine. For example, workers at Lucas Arospace in England attempted to rearticulate CAD/CAM technology in an ecologically based project that would empower the workforce (Cooley, 1980). And, programmers at IBM used the in-house network in order to organize around work conditions (Goldhaber, 1983). Without suggesting an alternative technology perspective, I want to suggest that grounded practices provide at least the possibility for the rearticulation of the official logic of the computer apparatus.

Ultimately, however, the existence of the computer as a cultural form extends within the human subject. The instrumental machine, and the logics of interaction that its social construction prefers, represent new ways of constructing the self and the social subject (Cf. Turkle, 1984). Both Sherry Turkle and Joseph Weizenbaum have written of powerful examples of subjects captured by the computer. As a projective medium the computer offers an asocial space that simulates the experience of sociality. In doing so it offers, quite concretely, a new form of interaction and a new modality of being constituted in interaction. The computer hacker represents the most extreme form of this process, speeding as much as 16 or 20 hours working through the machine, operating in the architecture of machine languages.

But a less extreme example, and a more revealing one is the case of the computer network. A year ago, with a colleague, John Lannamann (Lannamann & Allor, 1984), I did some research on the Compuserve CB simulator, particularly the adult channel. We observed a clear example of the unintended consequence of the interaction of the official logic of the network and existing cultural forms, and of the consequences for social subjectivity.

Subscribers to the service are able to engage in open-ended dialogues in a format which mirrors the unstructured chatter of CB radio. Participants from any point in the United States can enter the often chaotic conversations. It is not unusual to have five or more separate conversations piggy-backed together so that the only way to follow a particular conversation is to track the 'handles' of the participants. Participants who wish to converse in private must negotiate a specific code which

allows them to appear invisible to all other participants. The bilateral acceptance of this negotiation is a goal toward which many conversations are directed.

Although there are over thirty different channels to choose from the adult channel is the most popular. It is here that we can see best how the official logic of the networking institution stands in contrast to the profane logic of its users. The vision of an electronic forum unspoiled by status differentiation is replaced by a socially constructed hierarchy of display. Because the wired in logic of the technology produces rapidly fading sequential messages from multiple users, a premium is placed on novel and quickly produced messages which grab attention. The following excerpt illustrates an interaction in which the 'male' successfully attracted a 'female' to the private talk channel simply by selecting a novel handle.

(LOVE TO TALK DIRTY)	Superflirt, You M or F?
(HEAVY ZEP'LIN)	Superflirt, meet LTTD...
(AVAILABLE)	Hi GOD.
(LOVE TO TALK DIRTY)	Superflirt, want to talk?
(SUPERFLIRT)	Sure. Job 109
(HEAVY ZEP'LIN)	Uh oh.
(RIFF)	One has to admit that Love to Talk Dirty uses the direct approach.
(CYCLONE)	LTTD wastes no time

In this example, both the technical limitations of the system's version of dialogue and its cost (about $6 an hour) interact with existing cultural forms to produce profane uses. The official logic of equality in the forum is reversed in relation to an extreme form of gender construction. While it has been suggested that computer based communication systems reduce gender discrimination and sexism in an electronic forum due to lack of paralinguistic cues and the absence of other non-verbal cues of gender, the use of the technology exacerbates other linguistic differences. In a logic of display, speed and empirical styles of speech stand out. In order to succeed it is necessary to adapt male styles of discourse. Thus instead of being a neutral tool for communication, the micro-social uses of computer networks work to maintain traditional gender discriminations. In addition, as we can see from this example, they offer a screen on which one can play out a disembodied sexuality, gendering the self in relation to simulated contact.

To generalize, then, we can say that the transcoding or discursive placement of the computer as a cultural form isn't complete until it has been taken up within concrete contexts of use by social subjects. The computer apparatus then extends in contradictory forms from the macro-collectivity of government policy and multinational corporations to the profane practices of the social subject. Information, then, represents a binary logic that is rearticulated in relation to both the space of the social and the interiority of the subject.

Conclusion

To end I want to suggest that by looking at the contradictions and gaps between these levels of the computer apparatus we stand the best chance of articulating oppositional logics that might break out of the prison house of this new Enlightenment. By listening to the profane voice of the hacker as well as the forecast of the futurist we can isolate more sites for intervention, different ways of being subject in relation to the social machine. I don't want to overestimate the spaces that are open. But struggle must arise from an analysis of the powerful effects of the apparatus and from the weak points of the contradictory model points of the social machine.

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COMMUNICATING WITH COMPUTERS:
A TRANSPORTATION-TRANFORMATION TRADE-OFF

by W. Lambert Gardiner

1 COMMUNICATION THEORY

1.1 Transportation theory

Communication theory has been strongly influenced by the Shannon-Weaver model of communication (Shannon & Weaver 1949). This model, consisting essentially of a source and a destination linked by a channel, is a useful heuristic device for clarifying the complexities of the communication process. For example, the author has used it to classify explaining and understanding skills - see Figure 1a - and communication settings - see Figure 1b (Gardiner 1980).

However, Claude Shannon and Warren Weaver were electrical engineers and their theory, designed to describe communication between machines, is inadequate to describe communication between persons.

Because this model is inadequate, any research based on it tends to be unproductive. For example, the "media effects" traditional of research in communication studies, despite shifts of focus from uniform influences to selective influences to indirect influences, has yielded little by way of solid empirical findings (Lowery & De Fleur 83).

The unproductivity of the empirical research is due to the inadequacy of the theoretical model of communication, which is, in turn, due to the inaccuracy of the model of the person. It focuses on the person only as destination and considers that person as dealing only with input information from the source.

1.2 Transformation theory

A number of communication theorists - Roland Barthes (1973), Marshall McLuhan & Barrington Nevitt (1974), Walker Percy (1982) and Tony Schwartz (1973), to name only a few - have pointed to the inadequacy of the Shannon-Weaver model, which is dismissed as a transportation theory of communication. In its place, they propose, in their various languages, a transformation theory of communication. That is, the information is not merely transported from the source to the destination but is transformed at the destination, in the light of the information already there. That is, they consider the person as dealing with stored information in the destination as well as input information from the source.

(a) CLASSIFICATION OF EXPLAINING AND UNDERSTANDING SKILLS

SOURCE	channel	DESTINATION
SPEAKING	auditory	LISTENING
WRITING	visual	READING
HEURISTICS	all channels	MNEMONICS

(b) CLASSIFICATION OF COMMUNICATION SETTINGS

One source	Many destinations	Lecture
One source	One destination	Tutorial
Many sources	Many destinations	Seminar
Many sources	One destination	??????

FIGURE 1 USE OF SHANNON-WEAVER MODEL AS HEURISTIC DEVICE

1.3 Beyond transformation theory?

Transformation theory provides a welcome advance over transportation theory. However, another step seems necessary. This involves considering the person as dealing not only with input information, as in transportation theory, and not only with input and stored information, as in transformation theory, but with input, stored and fedback information.

The model of the person, proposed here, is based on the work of George Miller, Eugene Galanter, and Karl Pribram (Miller, Galanter & Pribram 1962). They argued that the optimists within psychology - the behaviourists - try to explain the output of the nervous system (that is, behaviour) purely in terms of the input (that is, stimuli). Like the transportation theorists in communication studies, they consider the person as dealing only with input information.

The pessimists within psychology - the cognitive theorists - try to explain output in terms of input and cognitive structures based on previous input. Like the transformation theorists in communication studies, they consider the person as dealing only with input and stored information.

The pessimists, they concluded, are not pessimistic enough. It is necessary to consider the person as dealing with input and stored and fedback information.

For inspiration, they turned to the computer. The computer has input and output corresponding to the stimuli and responses of the behaviourist. It has a memory unit corresponding to the cognitive structure of the cognitive theorist. However, it also has a program - a set of instructions for dealing with input and stored information. For memory unit, read image; for program, read plan; thus the TOTE unit is born (see Figure 2).

In TOTE, the person is thus seen as testing (T) the present state, based on input information, with some desired state, based on stored information, operating (O) according to some plan to reduce the discrepancy, testing again (T), and repeating this operation until the present and the desired states match, at which point, exit (E) - the behaviour based on this plan is complete.

Within this model, the person is viewed as actively seeking external information to match an internal image of a desirable state according to a plan. Communications studies,

The "human factors" approach has produced much interesting work on ergonomics - particularly that inspired by the Behavioural Research and Evaluation Group at the Department of Communications of the Federal Government. Thus, we have collected and collated much valuable information about the optimal design of work-stations, organization of keys on a keyboard, presentation of text and images on a screen, and so on.

However, this information is of value only once the person has come in contact with the machine. Good ergonomics increases the probability that a user will become a re-user but can have little direct impact on turning a person into a user. An important concern, however, is why people approach and avoid machines in the first place. People have to learn the electronic equivalent of "taking the book off the shelf" (Elton & Carey, Page 172).

2.2 Person language

Such questions are beginning to be addressed by psychologists. A sub-discipline is emerging (called - somewhat to the embarrassment of many- "tech psych") which considers the relationship between the person and the machine - from the perspective of the person.

It has already spawned a special issue of **Psychology Today** and a spate of books (for example, Frude 1983, Loftus & Loftus 1983, Rheinhold & Levine 1983, Turkle 1984). This literature is concerned with issues such as the user-friendliness of a machine. Does it invite the person to use it?

Such considerations are not mere gestures to placate the humanist. They play an important commercial role. Telex was firmly established when the telephone was invented. It was derided by the telex users, because people would not be interested in a communication with no hard copy as a record of the transaction (Pool 1981). However, the telephone has become one of the world's most ubiquitous tools because; to revert to modern terminology, it is user-friendly. Any commercial success of the Apple Macintosh is due to its user-friendly person-machine interface rather than to any innovation within the machine itself. It is like improving your axe by buying a better handle rather than by buying a better head.

The user-friendly concept is an encouraging step toward recognition of the importance of the person, even if only as a user interfacing with a machine. However, it is necessary now to

go beyond this concept to that of the convivial tool. The tool must not only be friendly (that is, inviting to use) but also convivial (that is, having accepted the invitation, it contributes to the quality of life). Big Brother, in George Orwell's **1984**, was friendly enough but was not convivial. The stick used as a club, which may have been or first tool, was friendly (to the user if not to the used-upon) but was not convivial.

In approaching the person-machine relationship from the person side rather than the machine side, one notices an interesting assymetry. The person has an attitude to the machine whereas the machine does not have an attitude to the person. The study of attitudes to machines is, therefore, a central characteristic which distinguishes the inside-out approach, starting with the person, from the outside-in approach, starting from the machine.

An anecdote may serve as a gentle entrée to this topic. We trundled a word-processor into our office, which had, till then, only the prehistoric typewriter. One secretary (let us call her Pollyanna) was delighted. Here was a wonderful new tool she could master and, thereby, lighten her load and improve her skills. The other secretary (let us call her Cassandra) was terrified. Here was a strange new machine she could not undertand and which could, perhaps, replace her. It was the same machine, sitting innocently in the corner, threatening nobody and promising nothing. However, Cassandra viewed it as a threat and Pollyanna viewed it as a promise. The important thing, then, is not the machine itself but the various attitudes to the machine.

The importance of attitudes is, of course, a function of the importance of the things to which one has attitudes. Our various attitudes to poppies are, for most of us, not very important. We can lead a decent life, without ever coming in contact with poppies, in any of their manifestations. Our various attitudes to people are, however, very important. The quality of our lives is largely dependent on our interpersonal relationships. As the new information machines penetrate our society, they move from the status of poppies toward the status of people. Despite what some technophiles suggest, they will <u>never</u> be as important as people. However, as they become more and more pervasive, our attitudes to them become more and more important.

Arthur Kroker (1984) has suggested that the Canadian contribution to North American thought is a synthesis of the acceptance of the technological society by scholars in the United States and the concern for the human impact of that society by scholars in Europe. This paper is a pittance toward

such a Canadian contribution. It seeks to determine what is a healthy attitude to technology. A healthy attitude is not, merely, a positive attitude. It is a selective acceptance of the positive human impacts of each technology and rejection of its negative human impacts.

2.3 Person-machine language?

The TOTE unit, described and diagrammed above in Section 1.3, may perhaps provide a useful language for talking about the relationship between the person and the machine. It considers the person, by analogy with the computer, as acting according to a program (plan) to reduce the discrepancy between input information and a desired state, represented by information stored within the memory unit (image), on the basis of fedback information from operations dictated by the plan.

Analogies are useful even when they break down. Indeed, especially when they break down. The analogy's failure to fit points to the essential difference between the two systems compared. The computer-person analogy breaks down when you ask "Who programs the programmer?" The computer's program is written by the programmer but the person's plan is self-programmed. The computer is extrinsically "motivated" whereas the person is intrinsically motivated.

Figure 3 contrasts the behaviouristic concept of the person with the humanistic concept of the person. Note that the basic distinction is between extrinsic and intrinsic motivation, that each proposition within each system of five propositions implies the next, and that each proposition within the humanistic concept denies the corresponding proposition with the behaviouristic concept. The behaviouristic concept describes the machine and the humanistic concept describes the person.

The close correspondance between the languages to describe the computer and the person permits us to do some creative analogizing from a simple system which we can understand (the machine) to a complex system that we aspire to understand (the person). However, the clear distinction between the two systems, indicated by the breakdown of the analogy, helps us avoid the twin dangers of anthromorphizing the machine and dehumanizing the person.

BEHAVIOURISM	HUMANISM
The person has only extrinsic needs	The person has intrinsic needs
The person is conditioned from the outside in	The person is growing from the inside out
The person is not responsible for behaviour	The person is responsible for behaviour
The person has only extrinsic worth	The person has intrinsic worth
The person has contractual relationships	The person has intimate relationships

FIGURE 3 COMPARISON OF BEHAVIOURISTIC AND HUMANISTIC CONCEPTS OF THE PERSON

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TELEVISION AND CULTURAL INTEGRATION: NATIVE COMMUNITIES IN THE CANADIAN NORTH *

by Gail Valaskakis

In the past decade, communication research has reflected a general concern about the negative cultural impact of modern telecommunications technologies on traditional cultures. The long overdue critique of the "Dominant Paradigm" and its assumptions about the role media could play in development complemented critical analysis of media technology, institutions, and images as generators of cultural dependence. In addition, the transfer of technology, funds, and training inherent in the integrationist approach to development has been persuasively challenged.

But at the same time, traditional peoples in many parts of the world are working with new technologies in an effort to stabilize cultural identity, build community, and support the activities and values of traditional lifestyles. Indigenous peoples share a growing interest in understanding media's negative impact on traditional cultures and information on the ways in which new technologies can be adapted to meet cultural and other developmental needs.

In Canada, as elsewhere, communication research has focused on television. The language, values, and models of commercial television programming are worrisome to Canadian native people, especially those living in the North where television has been introduced only recently. By the Fall of 1983, virtually all native communities received C.B.C. television. Larger communities can receive 10 Pay-TV channels through licensed satellite distribution and many communities receive additional channels on an off-air satellite or "pirate" basis. As part of the new environment of northern communities, southern television is now central to the strategies native people develop to integrate their values and lifestyles with those of dominant Canadian society and influences the way native people learn to perceive themselves. In Baker Lake, Norman Attungala told a 1980 hearing of the Canadian Radio-Television Commision:

> . . . my main concern and I am sure it is the concern of many people in the North, is that you have two audiences watching television, one group that does not understand a word of English and the other does and most of the programming on television is in English.

Indians and Inuit responded to this problem by demanding access to the medium. They have worked to "nativize" and adapt Northern television to reinforce their languages, lifestyles and values. In particular, Inuit have experimented with interactive television in an effort to achieve constructive cultural integration.

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Northern Communications in Perspective

Throughout the contact period, non-natives have maintained control of social and economic institutions in the North. Communication modes and technologies played an important role as non-native trade goods, technologies and techniques changed the lives of Inuit. Change agencies operated largely in the English language even when information flow was defined by transportation routes. Particularly in the Eastern Arctic, Inuit were effectively excluded form what became an English-language knowledge monopoly. As a result, they could not readily adapt their own culture or participate in that brought North.

Missionaries introduced syllabic and roman orthography systems for writing the native language in the late 1800's. By 1910, probably 98% of the Inuit in the Eastern Arctic were literate in Inuktitut (Graburn 1979). But three different orthographies meant that dialect differences and regionalization remained firmly entrenched even when Inuit could communicate with each other over the distance that separated them. At the same time, Inuit did not become functionally literate in Inuktitut or English. Before 1972, "fewer than one dozen books have been published in Eskimo" (Mayes 1973: 683). Until the 1960's when settlement schools become common, Inuit could neither read, write nor fully understand English.

When radio was introduced in the 1920's it provided Inuit with neither message access nor participation. Broadcast and HF radio were basic to the operation of northern change agencies by the 1930's. However, the first Inuktitut broadcast occurred in 1960 and, by 1972, only 17% of CBC Northern Service shortwave programming was in the Inuit language (ibid.). Until the formation of the Inuit Broadcasting Corporation, television followed the same pattern. In 1967, television programming was introduced to the first of 17 communities in the Western Arctic through delayed transmission of video tapes in 4-hour packages. This service was extended to the Eastern Arctic community of Frobisher Bay in 1972. The same year, Canada launched the Anik A satellite which delivers telephone and CBC television service to the North. 'Frontier package' television included no native language programming. Prior to 1982, satellite transmissions carried less than an hour a week of Inuktitut programming, none of which could be broadcast live from the North.

Media technologies were instrumental in supporting the acculturation of the Inuit within a model that can best be described as cultural replacement. After 1960, schooling meant that English language and southern information reached more and younger Inuit. Acculturation levels began to vary within communities and, because northern development resulted from the motives of outside agencies, between communities across the North.

Several writers have noted that northern development has not followed a specific order, plan or policy (Hobart and Brant 1966; Hughes 1965; Jenness 1964; Sindell and Winthrob 1969; Brody 1975). The rate, nature and locations of major change are largely the result of mineral exploration and mining, military plans and shifts in government policy. Individuals, even communities, vary in the depth of their contact with non-native culture and the extent to which behavior reflects traditional thinking and imaginative content, strategies for survival, and "language that was subtle, complex, and radically different from any Western language in its organziation of action and object, time and occurence" (Spindler and Spindler 1971: 14). Acculturation levels tend to vary in relation to both age and sex.

As one would expect, the behavior of Inuit under the age of 25 reflects southern goals and values more than older Inuit. But, until recently, younger women tend to acculturate more readily than their male peers (McElroy 1971; Lubart 1969; Ervin and Clairmont 1968). Over time, Inuit women have been more available for schooling and for public visibility jobs in which technical skills are less important than social skills (McElroy 1971: 19). Their contact with southern culture led to different adaptive strategies, including some preference for non-native males. The ways in which native people adapted discongruent cultures have contributed to divergent goals and values, decreased cohesion and problems of personal identity in most native communities. And as this process accelerates in the North, acculturation cannot be understood as a neat, uni-directional shift.

Even with extensive social change, the acculturation levels of most native people vary within a transitional range. Traditional ways of thinking and behaving are relevant to Inuit throughout the North, even those living in towns (Honigmann and Honigmann 1965; Brody 1975). Extended families and the values associated wth subsistence living orient behavior to a greater or lesser extent: cooperation, sharing, generosity of time, energy and goods, demonstrated skill, present-time orientation, roles defined by real and fictive relationships, etc. Non-native understanding of this is unclear because Inuit adaptation has meant differing conceptions of what is traditional culture.

To the non-native, pre-contact lifestyle and technology are considered traditionally Inuit. But as Brody (1975) suggests, Eastern Arctic Inuit include within their definition of traditional lifestyle, the Christian church, syllabic writing, trapping, even bannock, tea and jig dancing -- all post-contact phenomena. What is traditional to Inuit is that which has synthesized with their former lifestyle through time and the isolation of colonial contact. The marginality of Inuit meant that, however changed, traditional communication networks and information remained central to native life.

Non-native control and the 'boom and bust' pattern of northern development established Inuit dependency and social change. But permanent schools with southern curriculum and teachers and commercial television probably constitiute the most serious assault on native identity and cohesion. School in English formalized the process of cultural replacement which television has extended to the home. As Wilson (1981) suggets, both have been instrumental in reinforcing a sense of helplessness among Inuit, a generalized "giving up" which emerges from a perceived lack of control over their lives and is closely related to low self-esteem. This is most evident among young Inuit, those who are most affected by the critical discongruities between cultural systems.

The Role of Television

Television is, of course, one input among many in northern communities, but it is both pervasive and compelling. A CBC study on listening and viewing behavior in the Keewatin district found that nine out of 10 homes have a television and Inuit watch an average of 3.5 hours of programming daily (Fraser 1979). Like earlier studies (Hamer, et. al.: n.d.; Coldevin 1979), Fraser reports that comedy and high action are the most popular programs, of which the serial "The Edge of Night" is the most watched. The same study indicates that, in contrast with older Inuit, 87 per cent of those between 15 and 24 years old understand all or most of the English on television (ibid.: 32). Wilson (1981: 64-5) confirms that young Inuit pay more attention to television which "seems to have a powerful hold on the young people." And Caron's (1977:3) research on the relationship between television and Inuit children's cultural images concludes that:

> Children use a varied number of sources and that television had to be considered as one of the principle ones responsible for their cultural images especially in the case of unfamiliar groups that appeared on television.

Grantzberg's (1982) research among the northern Algonkion suggests that southern television is particularly powerful in native communities, where it has increased both out-group identity and stress. He found a correlation between television programming and changing behavior patterns, especially among children. Children began to see television characters as real and to include program heroes and violence in their game playing; "television appears to retard the tendency for Algonkions to choose members of their in-group as role players in these fantasy situations, especially for the role of 'good' person" (ibid.: 44-5).

To explain this, Granzberg suggests that television has taken over the functions of traditional communication in Algonkion society, and that television images and symbols are understood in relation to traditional meanings.

> ...by viewing television as a modern-day conjuring and storytelling device, Algonkion have been able to integrate it into their lives and have been able to relate to it according to familiar meanings and functions (ibid.: 49).

The power of traditional information through story telling and conjuring means that Algonkion look for deeper meaning than entertainment and experience "exaggerated susceptibility to television" (ibid.). But the relationship between television, traditional meaning and behavior involves a complex process of cultural integration.

We cannot isolate television inputs from other cultural information in native communities, but the tempo, structure and content of the commercial medium reflects a broad range of southern values. It is clear that the values associated with major television programming and traditional Inuit values are not complementary. But more importantly, the messages are received by individuals who operate within a set of interpersonal relationships and communication patterns. We must look at how values translated into experienced media images and concepts re-surface on the behavioral level to understand television's relationship to Inuit identity and acculturation patterns.

Most native people today perceive information within cognitive sets which must synthesize traditional concepts with southern Canadian concepts. Certain situations draw upon one source of symbols more than another, but both are active. No situational or individual boundary operates to separate traditional and southern information or to use one type as referent for action. This suggests that new inputs cannot be set in direct relationship to old. Their meaning lies in the integration of perceived traditional and new information in synthesized cognitive sets. No series of bounded, pre-contact concepts can define the meaning that mediated symbols and images hold for native audiences. The super-imposition of southern Canadian values and concepts carries an assumption of linear, uni-directional change and discounts important aspects of actual change, including the shift in the native perception of what is traditional and the extent to which Inuit differ in acculturation levels, languages and access to different information systems. To understand the cultural impact of southern television programming on native people, we must understand what is perceived as traditional and the varied ways certain groups tend to synthesize traditional information with media images and concepts.

Native experience, of course, does not reflect a neat model of cultural synthesis any more than it reflects an orderly pattern of cultural replacement or super-imposition. As a result, the concepts and roles which individuals and groups synthesize and which surface in behavior may be seemingly divergent. In addition, the dominance of one conceptual system over another varies in different situations. The behavior of young Inuit men in Baffin Island illustrates the complexity of cultural synthesis.

In earlier research on television impact among the Algonkion, Granzberg (Hamer, et. al.,; n.d.) found evidence of a "super-masculine" adaptation in the behavior of children and young adults. This author recognized the same behavior in Lake Harbour, Baffin Island. "The Fonz" is a composite televised image of the dress, style and technology important to Lake Harbour males between the ages of 15 and the mid-twenties, jeans, T-shirt, black leather jacket, boots, combined with "macho" style, nicknames like "Evil Kanooky", and a Honda motorcycle.

On the other hand, my work also supports Brody's (1975) contention that the "real Inuk," the perceived traditional male role of the hunter who demonstrates skill and control on the land, remains a highly functional image to young males. Their behavior reflects definite traditional concepts, including clear avoidance, privilege and respect patterns in interaction.

Yet, the Fonz image is synthesized with more traditional male Inuit identity. In fact, the synthesis of these two images and concepts clarifies a common Lake Harbour occurence. Young men frequently announce a "hunting trip" or "trip to the land" or an intention to be a "real Inuk today," then leave the settlement in jeans, black leather jackets and boots, carrying rifles and driving Hondas.

The dominance of the two images and their conceptual approaches varies in different situations, but the synthesis seems consistent with behavior patterns. Young men spend their time hunting on the land, but equally important are activities related to the media super-masculine image such as motorcycle riding, pop music and dancing, "hanging out," drinking, smoking, and dating.

This Southern "macho" behavior is not as evident when young men travel or hunt on the land with their families. Obviously, northern travel is associated more closely with traditional skills and concepts than settlement life. On a two-week canoe trip, the young males along looked like their settlement counterparts, but their behavior related more directly to the "real Inuk." Back in the settlement, the modern component tends to dominate. During one trip to Lake Harbour, an 18-year old man

visited our tent and commented that it made him miss the old days, when his family lived at camp like real Inuit. To recapture this, he decided to live in a tent for the rest of the summer. The following day when we visited him, we saw that he had placed his tent next to his sister's house. Two extension cords ran between the units, one supplying light, the other attached to his two-speaker stereo next to a wall-to-wall bed covered with pillows. His motorcycle parked outside the tent completed the scene. Only the bannock and tea were traditional.

It is, then, the synthesis of two conceptual images and roles, traditional and new, which vary in situational dominance that orients the behavior of young men, both in the settlement and on the land. Their behavior is not the result of a shift between clearly defined roles or images, but of the dominance of a synthesized role or image. Functionally, the synthesis integrates two cultural adaptations which are as divergent as the concepts. And the modern, super-masculine image is chosen not only because it is gleaned from southern media, but because it, like the conception of the "real Inuk" helps to counteract the sense of lost powers, decreased value and frustration felt by young men caught in the middle of rapid social change. The synthesis is an effort towards mutual masculine identity, a strategy to stabilize self-esteem, compete with southern males and integrate into the community. But because of different cognitive orientations, this synthesis is not shared or fully understood by older Inuit and young women.

With widespread television, both traditional and media images are familiar to Inuit; therefore generational or sexual differences in behavior cannot be explained in terms of differing information access. Perhaps they are a matter of perception. Film and television viewers in Lake Harbour, even Inuit relatively fluent in English, perceive media in terms of action and image, ignoring much of the verbal exchange. When programs are translated, discussion focuses on the visual and meaning differs among younger and older Inuit.

Television has become the major channel bringing southern information to native people. Images and concepts of what is valued in the dominant culture are gleaned primarily through this medium. Native people must integrate that information into their lives, but the current process does not lead to cultural stability or community cohesion.

The work of Harold Innis (1950, 1951) and James Carey (1967, 1975) suggests that modes of communication which make it easy and inexpensive to transmit culture over distance break down culture

cemented through time and reinforce spacially-biased culture. As traditional oral communication confronts television in the North, young Inuit are increasingly removed from the values and leadership which orient the behavior of their elders. Their cultural orientation may have more in common with people their age in Japan or France than their grandfathers. But young Inuit men, for instance, are caught in a double bind. Their adaptive behavior can neither integrate them into the dominant culture nor stabilize their identity within their own culture.

Inuit Interactive Experiments

Inuit became aware of the cultural force represented by southern television in the early 1970's. Their response included a demand for access to the technology. They wanted to use television to provide both relevant cultural information from southern Canada and to support traditional values and lifestyles in an effort to stabilize their identity and build the Inuit community. Two Inuit organizations proposed interactive experiments using television through Canada's Anik B communications program. Their experience indicates that television can be adapted to meet these needs. Canada launched the first of two experimental satellites in 1976.

The Hermes satellite provided for a 2-year program of technical and functional experiments. When the satellite remained active for a third year, Taqramiut Nipingat Inc. (TNI), a native communications society in northern Quebec, submitted a 2-month interactive audio experiment "...providing media with local level participation and control to facilitate cohesion and self-development in northern Quebec communities" (Hill and Valaskakis 1979: 1:2). This short project demonstrated that interactive satellites could provide information from Inuit and southern cultures and assist inter-community discussion in remote, northern areas.

The Department of Communications mounted the Anik B Program to build upon the Hermes experiments and establish the viability of new communications services, including native broadcasting. Taqramiut Nipingat and Inuit Tapirisat of Canada, the national Inuit organization, proposed Anik B experiments hoping these projects would "lay the groundwork for the implementation of an operational communications system structured to meet Northern needs" (Green and Simailak 1981: 7).

The Inukshuk Project

In November 1978, Inuit Tapirisat began a 3-year Anik B Project named Inukshuk after the stone cairns that served as one of the first northern communication aids. ITC secured funding of $1.9 million through the Department of Indian and Northern Affairs to train Inuit staff, establish a studio and a production centre, initiate a widespread videotape distribution system, and provide programs broadcast over the satellite from September 29, 1980 to May 31, 1981. The Inukshuk Project used the Anik B satellite to link six communities in three Arctic regions (with different time zones and dialects) through one-way video and two-way audio. The

videotape distribution system was included in the Project to provide relevant, Inuktitut information to northern communities excluded from the experimental network. Inuit concern with community access and participation, especially among the young and the old, directed project design and implementation during the next three years.

In each of the six communities, Inuit participated in the interactive network from either of two locations: a small meeting room, such as the community council office; or a large meeting room, such as the community hall, which was equipped with a 3' by 4' video screen. The system was further designed for maximum flexibility of reception. Community users could re-direct the signal to any combination of meeting rooms and/or home reception; and five communities could broadcast locally. Inukshuk began building communications resources two years in advance of the interactive experiment. This meant establishing production facilities and training staff for community-level programming.

During the experiment, Inukshuk aired a mixture of teleconferencing and broadcasting, including live and pre-taped programs, for 16½ afternoon and evening hours each week. The project tested the use of the network for adult education, children's education, Inuit broadcasting and interactive meetings. A selection of programs broadcast during October and November 1980, illustrates the importance placed on programs integrating relevant information from southern and Inuit cultures:

> Interactive programs have been held among the Hunters and Trappers Associations to discuss game management and control and among the Health committees to exchange information on preventive health. The government of the Northwest Territories has met with the local education committees for input on education standards and curriculum development. The adult education includes a 10-part series on how to cook food from the land and its nutritional value. Elected representatives have met with their constituents over the network to discuss matters that are before the Territorial Assembly. Programming done for local transmission only has emphasized community issues. Inukshuk staff in both Baker Lake and Frobisher Bay televised an all-candidates' debate prior to municipal electiosn with a phone-in show. Baker Lake provided detailed, up-to-the minute coverage of the election returns on the evening of the election (Green and Simailak 1981: 12).

The project produced 323.7 hours of programming during the experiment of which 164.3 hours were live programming, largely interactive meetings (ibid.: 302). Forty-five of 56 categories of groups which participated in interactive broadcasts were Inuit (Valaskakis, Robbins and Wilson 1981: 333). The great majority of

these were local committees and interest groups which could not afford to hold meetings requiring travel. In all, Anik B allowed 379 local groups to participate in interactive meetings (ibid.: 391). The most frequent users were the young and the old, those who feel greater cultural isolation as development changes communites. Their enthusiasm is summed up in the statement of a Grade 10 student in Pond Inlet who participated with students from other settlements in compiling community profiles using the Inukshuk network:

> The Inukshuk Broadcasting Station provided without any doubt a chance which was better than mail (faster), cheaper than travelling (there would've been no way we could have travelled to those other communities) and good opportunity for the students to exchange information on our survey, orally. My only wish is that the Inukshuk Broadcasting Station could be broader to take in more communities of the NWT--we have so much to share with each other! The students most of all, learned awareness among so many other things about other community's life (ibid.: 252/457).

Viewer surveys in all six communities suggest that Inuit took advantage of the access to relevant, Inuktitut information. In Frobisher Bay where respondants were asked to rate preferences among the four program categories, interactive meetings received the highest rating, just slightly higher than films (ibid.: 387).

Inuit interest in interactive television programming is also suggested by the overall pattern of programming topics during the Inukshuk project. In all the communities, by far the greatest proportion of programming minutes was devoted to public affairs and current issues: 38.7% of all programming minutes, 29.9% of the programming segments. Education, contact between parents and students, alcohol control and health information were other recurring topics (ibid.: 304).

Conclusion

Inuit today are aware of the role communications has played in the processes of northern social history and contemporary cultural development. Inuit Tapirisat stated at its 1980 Annual Assembly that "the introduction of television has meant the last refuge of Inuit culture the home, has now been invaded by an outside culture which the Inuit question from time to time" (Green and Simailak 1981: 14) The Assembly insisted on the right to community control of broadcasting signals and the urgent need for an Inuktitut broadcasting network. The Inuit Broadcasting Corporation was formed

in 1981 as a result of the Anik B experiments. This first native broadcasting network in North America currently broadcasts five hours of Inuit-language programming each week through released time from C.B.C. Northern Television Service, including live programming made possible by a satellite up-link in Frobisher Bay. It plays an increasing role in bridging the different environments of young an old, native and southern Canada.

A 1984 survey of television behavior in ten eastern Arctic communities found that over 85% of Inuit between the ages of 10 and 85 watch one or three hours or more of IBC programming (Valaskakis and Wilson 1984). Inuit broadcasting is most popular with older people, aged 46 to over 61, who speak almost no English. But it is reinforcing the use of Inuktitut among the young; and its emphasis on traditional knowledge, regional news and practical information is showing signs of "spin off" related to CBC programming. "Happy Days" again remains a very popular program, but it is watched primarily by those aged 10 to 15 and over 61. It ranks in enjoyment with soap opera/serials such as All My Family and Dallas. But all three are now watched less frequently than Inuktitut programs and the National News (in English).

Additional up-links and a satellite channel dedicated to northern programming will increase the spread of Inuit images and Inuktitut information. Without an interactive component, dependent upon southern funding, systems design, equipment and expertise, and forced to compete with diverse and value-laden commercial programming, Inuit television faces a formidible challenge. But Inuit adaptation to two different sets of cultural inputs reinforces the need for Inuktitut programming and relvant cultural information. Native use and adaptation of television suggests that it can make an important contribution to the integration of divergent cultural orientations.

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TELEVISION BROADCASTING OF THE PROCEEDINGS IN THE CANADIAN HOUSE OF COMMONS AND THE UNITED STATES HOUSE OF REPRESENTATIVES: A COMPARATIVE OVERVIEW

by Donat Taddeo

The mass media have brought the political process into the public arena as never before. Initially, the newspaper in North America reported regularly on the proceedings of the legislative bodies of both Canada and the United States, at both the local and national levels. Radio brought into the home of the citizen not only the news about what was going on in politics but also the voices of those who were responsible for making the news. Television extended this in the visual medium and more specifically, television network news in both Canada and the United States has made reporting from the nation's Capitol a vital part of the daily information menu these last twenty years or so.

The reactions of those being covered, the politicians, have not always been favorable. They have more than once accused newsmen of performing their roles in a manner which is less than objective, indeed, of "gatekeeping" in an arbitrary and selective way. It was perhaps in an early attempt to circumvent the perceived arbitrariness of the news media that legislative bodies in both Canada and the United States decided initially to permit direct media broadcast of special events in their respective chambers. It was such initial special event coverage which led ultimately to the discussion on the general issue of broadcast coverage of the proceeedings in the respective legislative chambers.

This paper shall describe briefly the history of these discussions and the factors which led subsequently to the decision to permit television broadcast coverage of the proceedings in the Canadian Parliament and the U.S. House of Representatives. There will also be an update on the state of the debate concerning coverage of the proceedings in the Canadian and American Senate chambers. Finally, there will be a description of the effect broadcast television coverage has had on these legislative institutions, on the politicians themselves and on the public in general.

The broadcast of events from the Canadian Parliament follows roughly the same pattern as does the history of broadcasting legislative proceedings in the United States. Although radio broadcasts may have been limited to Prime Ministerial addresses to the nation in times of crisis or during special events (WW II addresses by Mackenzie King, coverage of Royal visits), television broadcast of the legislature began with Canadians getting a glimpse not of the proceedings but of the opening of Parliament. At the opening of a new parliamentary

session, especially one which follows a general election, the Governor-General, the Queen's representative and thus the head of state, delivers a "Speech from the Throne" (actually the Speaker's Chair in the House) which contains the goals and objectives of the legislation the government will put before the House in the upcoming session. On occasion, Queen Elizabeth II herself has been present to deliver this speech from the throne. During such recent occasions, the speech was broadcast live on television and the cameras would cut away as soon as the ceremony had been completed and the House moved on to conduct its regular business.

Television cameras also were present when the late Prime Minister Lester B. Pearson convened the Premiers of Canada to Constitutional Conferences in 1967 and 1968. The six years preceding had been marked by the emergence of a strongly nationalist and "independentiste" movement in Quebec, a province whose six million strong population is 80% French-Canadian. The growth of this movement and the resulting tension between Quebec and Ottawa and the other Canadian provinces was a source of great national concern. These conferences were convened in an attempt to solve the disputes which raged at the time. In addition to exposing the Canadian population to the problem at hand, these televised conferences also provided for certain key political figures to acquire national recognition. Pearson's Minister of Justice at the time was a French-Canadian intellectual whom Pearson had recruited in an attempt to indicate to Quebec that French-Canadians could indeed play an influential role on the national political spectrum. Consequently, Canadians saw for the first time how Pierre Elliot Trudeau could confront decisively, eloquently and determinedly the nationalist arguments put forward by his fellow French-Canadians from Quebec. Trudeau was chosen leader of the Liberal Party of Canada after Pearson resigned in 1968 and was elected Prime-Minister of Canada in June of the same year, a post which he held until he himself resigned from office on June 30th, 1984. With the exception of that brief nine month interval in 1979-1980 when the Conservative party formed a minority government in Canada, Trudeau led the nation for almost sixteen consecutive years.

The Canadian Parliamentary record indicates that a special committee was formed in 1970 to examine the question of televised broadcast of the proceedings of the House of Commons. It appears, however, as if this Committee failed in its mission for it was only on February 28th, 1977, that the House approved "...the radio and television broadcasting of its proceedings and of the proceedings of its committees on the basis of principles similar to those that govern the publication of the printed official reports of debates." [1] At the same time, the House

mandated its speaker and a committee of seven parliamentarians to examine the costs, the legal implications and the possibilities of having an initial trial broadcast period which would help in developing permanent facilities and procedures for television broadcasting of proceedings from the House of Commons.

The Special Committee on TV and Radio Broadcasting of Proceedings from the House and Its Committees met through 1977 and 1978. As a result of the hearings, the Committee decided to recommend that the House assume full responsibility for the coverage of its proceedings by hiring directly the production personnel necessary. [2] The Committee recommended also that no cost be spared in assuring that the broadcast would be of the best quality. [3] Although camera shots were to be especially directed towards the Speaker of the House and the member of Parliament who had the floor, provisions were made to make sure that there would be "...more liberty in the shots to give the television broadcast some life." [4]

Canadian parliamentary proceedings were first aired on a temporary basis on October 15, 1977. Several factors led to the decision to televise the debates from the House of Commons. On the one hand, the official reason seemed to be that "... the Canadian House was primarily concerned with upgrading its public image and having an electronic record of its proceedings." [5] But perhaps a more important factor was that other Canadian provinces were considering or had already introduced televised proceedings of their debates. In addition, the separatist Parti Quebecois had been elected to power in Quebec on November 15, 1976. The Parti Quebecois had promised during the election campaign that rather than declare independence outright if elected to power, it would go to the population in the course of its mandate to seek the people's support by means of a referendum that would enable it to negotiate a form of sovereignty-association with Ottawa and the rest of Canada. In an attempt to make Quebec politics more transparent, the Parti Quebecois introduced procedural changes that would permit the televising of the proceedings from the floor of the National Assembly in Quebec. It is clear, then, that Ottawa could not afford to be absent from this debate which would impinge directly on the future of the nation. Quebec citizens had to see the Canadian Parliament in action, and more specifically, they had to see the role French-Canadians played in that Parliament. If Quebec provincial politicians such as Levesque, Morin and Laurin were to be seen holding forth in Quebec City, then it was all the more necessary that French-Canadians such as Trudeau, Lalonde and Chrétien had to be seen holding forth in Ottawa at the national level.

In the United States, the radio medium granted Congressmen and Senators extensive coverage in the 1930s. Between 1937-1944, there was a question of broadcasting on radio the proceedings of the House of Representatives, with a major argument being that "Congressional broadcast would provide a direct access to the public, circumventing the print-news media's misleading reports of Congressional activity." [6] The debate stalled, however, and ironically enough, it was the television cameras that were on hand for the opening of the 80th Congress in 1947. [7] As mentioned previously, it was the televised broadcast of special events that set the precedent for the eventual coverage of the legislative proceedings. In the case of the United States, such special events consisted especially of the much publicized hearings which took place in the late 1940s and the early 1950s. [8] Coverage of the Committee Hearings on UnAmerican Activities and the Kefauver Committee Hearings introduced the American public to live political television drama. The popularity of these televised Committee Hearings may have been as much a result of television's impact as a new medium as it was of the nature of the topics under investigation. Regardless of which factor weighed the most heavily, these Hearings provided the American public with an inside look at how the Committee system functioned and also fostered the national identification of the major political figures involved. In this respect, these initial effects were no different from those which took place in Canada at a later date. Kefauver became the Vice-Presidential candidate on the Democratic party ticket in 1952 and Trudeau became Prime-Minister in 1968.

Although there were many efforts in the 1950s, the 1960s and the early 1970s to extend broadcast television coverage to the proceedings in the House of Representatives, the resistence proved to be too strong and too well organized. Congressmen with more seniority, who were more closely linked to the traditions of the institution did not respond positively to the possibilities which television coverage offered. They feared that the presence of cameras in the House would lead to grandstanding by Congressmen and would harm the proceedings in general. Former Speaker Rayburn and his supporters were especially worried that television coverage would provide younger and newer congressmen with immediate exposure and recognition which they would otherwise have to gain through the traditional seniority system which existed and prevailed for assignment to important House functions and to Congressional committees. [9] There was a fear also that television coverage would undermine the unwritten traditions and procedures for conducting business in the House. For example, rather than be bound by caucus solidarity on votes taken at the sub-committee

and committee levels, what was there to prevent a Congressman from re-addressing the same issue he had lost at both those levels in the Congressional Chamber before the television cameras?

The major breakthrough occurred in the 1970s and was the result of several important events. The first was the Viet Nam War. President Nixon had made extensive use of the television medium in defending his actions during the war and there was a feeling among both Congressmen and Senators that their respective roles in the process of governing the United States was being severely undermined. There was even an attempt by Senators Fullbright and McGovern to demand that the television networks grant equal time to Senate so that it could respond to Nixon's addresses to the nation. [10] The second major event was the Watergate Hearings. The coverage of these hearings and the importance which personalities such as Ervin and Baker assumed served to convince Congressemen that television exposure could enhance both their personal and institutional credibility. This in itself may have affected the decision of the House of Representatives to allow for the televised broadcast of the impeachment proceedings which subsequently never took place because Nixon resigned as President. But this alone indicates the effect which the televised broadcast of the Watergate affair had on the political situation in the United States. Indeed, would the same political outcome have occurred, given similar circumstances, sixty years ago, before the advent of the broadcast media? The third factor was the new wave of Congressmen who were elected just after the Watergate affair. Exposed as they had been to the Viet Nam War and to the Watergate debacle, they came to Washington with the conviction that the balance of power upon which stood the Republican system of government must indeed be restored, by increasing the visibility of the legislative branch. [11]

As a result of the historical precedents by especially as a result of these three factors, the House of Representatives voted in favor of live television broadcast of its proceedings and coverage was first provided by C-SPAN on March 19, 1979. [12] One of the issues in the debate to televise or not to televise had centered on the responsibility for the direction and production of the telecasts. Although prominent congressmen such as John Anderson insisted that the television networks be entrusted the responsibility of pooling their resources to produce the telecasts, the House chose to follow the Canadian model and assumed control of the telecasts. To the argument that this could lead to some bias in the coverage or to the perception that the House was influencing the nature of the coverage, the Rules Committee stated:

> It is because of the deeply imbedded news and drama-oriented predilection of the broadcast media - perfectly understandable and commendable for their legitimate purpose but inappropriate for what we see as the fundamental purpose of the coverage - that we reject network pool control and recommend House operation of the system. [13]

The technical aspects of the telecasts were stricter than those adopted by the Canadian Parliament. Fixed cameras were to take shots only of the Speaker and those places in the well of the House where Congressmen went to speak. There was to be no panning, no reaction shots. In addition, Congressmen were prohibited from making any commercial or political use of the videotapes of the House proceedings. [14]

It is clear that in deciding to provide television broadcast coverage of the proceedings that Congress was reacting to the events precipitated by the Viet Nam War and the Watergate hearings. The Viet Nam War especially had propelled the visibility and the power of the Presidency somewhat beyond measure. At the same time, television news coverage of the House's activities was negative, when not neutral. [15] In their interesting analysis of network news coverage of the House, Robinson and Appel indicate clearly how television news focus on the Presidency and the Senate was having detrimental effects on House coverage. [16] It was with the results of their analysis at hand that they concluded:

> We now understand why Congressional leaders adamantly refuse to give the networks control of the television cameras that have recently been installed in the House of Representatives and will, before long, be placed in the Senate galleries as well. Congressional leaders insist that control of the cameras will stay in their hands. Given what we know of the networks' treatment of Congress and what we have known about elected officials in Congress, we are not surprised by the leadership's decision. Were we in the same situation, we might well decide the same way. [17]

The House was reacting also to the extended coverage granted to the Senate. This can be attributed to the fact that the Senate is a smaller institution and one from which presidential candidates most usually emerge. In essence, however, it would appear that Garay's assessment of the situation is the most perceptive: "The decision to improve accessibility

to television, while a direct result of Congressional efforts to modernize many of its antiquated rules and procedures, nevertheless appeared to coincide with Congress' efforts to re-establish its policy-making initiative." [18]

The Senate of the United states has yet to vote formally to allow the television broadcast of its proceedings. Although in this case also there is a lot of history to the debate and recent broadcast experiences have met with some success (the radio broadcast of the Panama Canal treaty debate in 1977) efforts by Senator Baker to have the Senate adopt rules changes that would allow for the televised broadcast of the proceedings have failed as recently as 1984. The issues raised for and against the televised broadcast were substantially the same as those which were raised in the House when it debated the issue. There is a fear of grandstanding, a fear that the procedures of the Senate will be disrupted and, especially, a fear that Senators will play more to the cameras than to the Bill which is on the floor for debate. There is a resolution before Senate, at the moment, which will more likely than not be adopted some time in 1986. [19] From the technical point of view, the Byrd proposal recommends that, as is the case with the House, the direction and production of the television broadcast of the Senate proceedings be the responsibility of the institution. The cameras would again focus on the speaker only; there would be no panning and no reaction shots. Senators would be prohibited from making any commercial or political use of the videotapes of the proceedings. [20]

Interestingly enough, it appears as if the Senate's latest efforts towards televising its proceedings stem from the fact that it is now perceived as the missing half of Congress - the House is on C-SPAN but the Senate must depend on selective network news coverage for exposure. The institution, then, is not presently in the media as much as the Senators would like it to be. Indeed, the chances are good that this latest effort towards broadcasting its proceedings on television will pass because of "...the Senate's growing jealousy of TV coverage of the House which has televised proceedings since 1979." [21] Herein lies one of the more important effects of the House's decision to televise its proceedings.

IMPLEMENTATION

The Canadian House of Commons broadcast services, the Parliamentary News Network, provides the television and sound feed of the House deliberations to the CBC. This feed is then

beamed by satellite, free of cost, to those Canadian cable companies which carry the Parliamentary telecasts. The CBC rents two satellite channels, one English and the other French. At the beginning of each parliamentary day, the hosts on the respective channels review what is on the legislative agenda. They also provide a wrap-up at the end of the parliamentary day. The highlight of the parliamentary day is undoubtedly Question Period. This lasts for forty-five minutes and it is preceded by a fifteen minute period during which Members may address Parliament. [22]

The Parliamentary Network goes to some 4.8 million homes (approximately 13.7 million Canadians) via some two hundred cable companies. The average "House day" lasts six and a half hours which means that for the rest of the day as well as for those days when the House is not sitting, the channels which beam the telecasts remain idle. In 1984, the CBC paid close to three million dollars for the satellite channels and the costs of the Parliamentary News Staff came to some $665,000. [23] Since Canada is officially a bilingual country, the telecasts are provided in both French and English and simultaneous translation is provided on each of these channels. There is also sign language translation for the deaf. Depending on the nature of the question and the origin of the member who poses it, questions are asked in either French or English. It often happens that an English-speaking opposition Member of Parliament may question a French-speaking government Minister. Hence, the question is asked in English and the answer is given in French. Simultaneous translators intervene on the respective channels when this happens; bilingual Canadians prefer to switch back and forth between the French and English channels to hear directly what is being asked and the answer that is being given.

The staff of the House of Representatives is in charge of the six cameras that cover the activities on the floor. As mentioned beforehand, these cameras allow only "shots of the podium and the well of the House where the members go to speak." [24] The visual and audio feed is available also to the offices of the congressmen. The proceedings are broadcast across the United States on C-SPAN, the Cable Satellite Public Affairs Network. Actually C-SPAN, which was established in 1977 by some twenty four cable operators who provided close to half a million dollars to initiate the operation, broadcasts the feed from the House via satellite to subscriber cable systems. In its first week of operation in 1979, C-SPAN reached some two hundred communities. By March 1982, however, it reached twelve hundred cable systems in all fifty states and was accessible to approximately eleven million cable households. [25] C-SPAN charges cable companies three cents per subscriber for the

service. Coverage is on a twenty-four hours a day basis and viewers, therefore, have more than just one opportunity to see the proceedings of the House.

EFFECTS

Although televised proceedings of the House of Commons and the House of Representatives are fairly recent, it is possible to identify effects which can be broken down into the following three categories, namely, the audience, the politicians and the institution.

AUDIENCE

Although it is estimated that the Parliamentary News Network is available to some 13.7 million Canadians, the number of people in Canada who actually watch Parliament in session is about 100,000 per week. [26] Parliament meets on weekdays and sits in the morning and the afternoon. Since there are no replays of session at night, it is only those people who are home during normal working hours who can watch Parliament in session. This not only reduces the total potential audience, but it limits severely also the kinds of people who are likely to watch the House in session.

According to a recent article in the Canadian Parliamentary Review, "Viewer growth and concern is reflected in audience mail content and quality, feedback from members of Parliament themselves and their staffs, media representatives - especially from the Parliamentary Press Gallery - and cable company inquiries to pass on to the subscribers." [27] It appears also as if the Canadian public initially was displeased with the manner in which the parliamentarians behaved. The hissing, the booing, the catcalls, the shouts across the floor while a member was speaking came as a shock to many Canadians, as did the desk-pounding which took place whenever one party or the other felt it had scored an important point in the debate. Shortly after television was introduced on a permanent basis in the House of Commons, the Conservative party, which was in the opposition at the time, adopted applause rather than desk-pounding when an important point was made; this form of approval spread quickly to the other parties in the House. The audience, although limited, obviously had some effect on this Parliamentary habit and tradition.

The House of Representatives sits daily either between 10:00am-3:00pm or 11:00am-4:00pm. As is the case with the

Canadian Parliament, then, these hours in themselves determine largely who can watch the House live in session. In February 1984, the potential audience of C-SPAN was estimated to be 16 million and approximately 200,000 people were tuned in at any given time. [28] (The latest C-SPAN figures show over 20 million subscribers, but there are no hard figures for House audience viewing). C-SPAN offers the House proceedings more than once a day so the potential audience has greater flexibility than is the case in Canada. According to a recent Robinson study, 93% of C-SPAN viewers voted during the 1984 Presidential elections, compared to the national average of 53%. [29] In addition, "C-SPAN viewers...tend to be heavy consumers of news, better educated, wealthier and more politically involved than either the public or the Cable TV subscribers at large." [30]

The televised proceedings of the House of Representatives has spawned the birth of citizen action groups who monitor the daily proceedings to see what stands the respective parties are taking on controversial issues and more specifically, where the local congressman stands on these issues. These groups then inform their fellow citizens of the daily happenings in the House. It is precisely this function which the "Watchdogs on the Congress", a group of senior citizens, performs daily in Sioux City, Iowa. [31]

Audience size for both the Canadian Parliament and the House of Representatives' television broadcasts is difficult to define. In effect, the size is indeterminate; although numbers are available, then 100,000 in Canada is a "weekly" number and the 200,000 in the United States is a number for "any given time." It is clear, however, that the kind of people who watch the proceedings is a function both of the broadcast hours and the individuals' backgrounds. In essence, these are the people who are at home during the regular working hours; it can be presumed that they are mostly senior citizens or people not tied down to regular jobs. In addition, the United States audience is composed of people who have a definite interest in politics. C-SPAN has taken advantage of this interest and recently has extended coverage to state caucus meetings for the selection of delegates. [32] C-SPAN thus seems to be responding to the promoted political interest in the population - or it may simply be giving the converted more of what they want.

POLITICIANS

The televised proceedings of the House of Commons' debates as well as the House of Representatives' debates have

also had effects on politicians. In Canada, political personalities have emerged especially as a result of the daily Question Period. It is during this period that the opposition puts questions to the Prime Minister and the Cabinet Ministers of the governing party. Needless to say, some Cabinet Ministers are more adept at handling the questions than are others. In times of crises and conflict, it is not unusual to see the opposition pound away at the Prime Minister or a beleaguered Cabinet Minister.

As a result, presence in the House of Commons during the Question Period is probably a more stringent requirement now than may have been the case before the debates were televised. Whereas key cabinet Ministers and the Prime Minister could in the past delegate to those members who were their parliamentary aides or to fellow Ministers the responsibility for fielding questions during the Question Period, they are now less prone to do so. Particularly in times of controversy, the national news includes as part of its coverage the exchange which may have taken place in the House that day between the government and the opposition. If, for example, the Minister responsible for the Public Sector does not appear in the House three days in a row in the midst of a nation-wide postal strike, it is made all too clear by the opposition's questions to an absent Minister and by the media news' coverage of the incident that there is a dereliction of duty. Quite simply, because of the news value that it has, key government Ministers cannot afford to be absent often during Question Period. In addition, Ministers have to be much better prepared to answer the questions that are put to them than may have been the case previously. In effect, it is their credibility which is exposed daily via the medium of television to the Canadian public in general.

In Canada, politicians who have major aspirations on the national level must be bilingual before they enter the House of Commons. There can be nothing worse than a member's responding to a question in the other language; this is apparent especially on the national news. A member puts the question in English and as the answer comes back in French; the voice of the Minister answering is replaced by the translator's voice. It is as if someone else was answering the question (which is literally the case) and it lends a certain lack of credibility to the Minister in question because he or she is unable to converse in the other official language of the country.

Another change which is discernible is the seating arrangement which prevails both on the government and opposition

benches. The advent of the television cameras seems to have changed what may have been a purely hierarchical seating arrangement in the past. Since the television coverage of the House of Commons permits medium range and full body shots as well as the traditional close-ups, it happens often that the person on camera is framed on either sides and from behind by other members of his party. As a result, those sitting next to or behind the oppostion leader or the Prime Minister or key government Ministers get extensive media exposure, even though they are not speaking. This fact has not been unnoticed by the political parties. It seems as if more and more females and representatives of important minority groups are more and more placed in the "camera range" seats in the House of Commons.

The greatest effect by far seems to be that the televising of the proceedings from the House of Commons has demanded a greater presence and preparedness of the leading government and opposition members in the House of Commons. In this respect, it can be said that the television broadcast of the proceedings has benefited the Canadian population at large.

A survey conducted in 1980 indicated that the members of the House of Representatives were better briefed on issues and more aware of the legal procedures governing deliberations in the House: "These last two findings strongly suggest that, owing to television, members of the House are becoming better prepared to perform their official duties." [33] It seems, then, that television had had similarly positive effects on this branch of the American government.

Since the American system is republican and not parliamentary, there is no official leader of the opposition, no opposite to the President. The presence of two political parties in the House does, however, lead to interesting debates in that Chamber. Before and after the daily proceedings, there is a limited amount of time provided for one minute speeches by individual members of the House. A survey indicates that the use of this time has tripled between 1979 and 1981. [34]

Among those who made the most use of this time were a group of Republicans who decided to seize upon this opportunity to raise important and controversial issues in order to expose the positions defended by the Democratic party. Calling themselves the COS group (Conservative Opportunity Society), these Congressmen delivered a series of blistering attacks during this time period. [35] What the viewers at home did not realize was that these attacks were made before an almost empty Chamber.

It was only when he believed that the COS group had gone too far in attacking Congressmen who were not even present to defend themselves that the Speaker of the House on May 10th, 1984 ordered that the television cameras pan the floor of the House. [36] This tactic of organized one minute speech attacks has since been adopted by the Democrats also, although it seems that both parties have agreed to inject a minimum of fair play into the process. [37]

As is the case in Canada, television cameras in the House have benefited especially those Congressmen who are eloquent and powerful orators, those who are therefore most often called upon to focus attention on the party's issues and positions. [38] Although Congressmen are not allowed to use the videotapes of the House proceedings for commercial or political use, nothing prevents their opponents from doing so. As a result, many non-incumbents have taken advantage of this opportunity to use the televised proceedings' videotapes in preparing political advertisements against their opponents in Congressional elections. The members of Congress can use these tapes for informational purposes only, and according to a survey conducted in 1978, only seven tapes had been sold in seven months for this purpose. [39]

Finally, members planning to make one minute speeches notify the television stations in their constituencies with the hope that the speech will be picked up by the television station and be used during the local evening news. [40] These one minute speeches delivered in the House have the immediacy and newsworthiness which surpass greatly a prepared video message which Congressemn can also provide to their hometown constituents.

THE INSTITUTION

The Canadian House of Commons opted for television coverage of the debates because it was "... primarily concerned with upgrading its public image and having an electronic record of its proceedings." [41] The televised broadcast of Parliament seems to have made Canadians more familiar with the process of Parliament. In turn, Parliament has adopted a more decorous behaviour. Beyond this, there appear to be as yet no evaluative studies of the institutional effects of the television broadcasts. It would be interesting to note how it has affected the rules and procedures in the House of Commons and also the dynamics between the House and its Committees. To what extent, for example, do issues reappear in Parliament even when they

have been resolved at the Committee level? Is there more or less cooperation between the government and opposition House leaders? A major point would be the decision making process in deciding what questions will be asked of the government and who will ask these questions. Has the impartiality of the Speaker of the House been questioned more or less often since the advent of the television cameras in the Chamber? To what extent have the television cameras affected the unwritten and informal procedures of the House of Commons? To what extent have they affected its intimacy?

There is one effect, however, which can be determined clearly. The Senate of Canada voted recently to permit the radio broadcast of its proceedings. [42]

There have been several effects which the television broadcast has had on the proceedings of the House of Representatives. The proceedings have tended to be longer as there is less self-restriction in the debates and as there are more lengthy calls for a full vote when a Congressman wants to make a point on a certain issue. [43] There seems to be a disregard for the informal rules of the House as Congressmen resurrect more readily questions already voted upon in committee. On the other hand, television has improved the functioning of the House since Congressmen are better informed, it seems, on the issues. [44] There are those who speculate that the one minute speech period may become a forum for mini-debates between the two parties in the House and that efforts will be made to schedule such debates during the evening prime-time television viewing hours. [45] If this were to happen, it would resemble in form the Question Period of the Canadian Parliament.

Television in the House has also contributed to the development of political personalities; it has contributed in "...establishing the House as the center of Democratic administration policies and identifying Speaker O'Neill as the party's principal spokesman." [46] In effect, television has increased also the House's visibility and credibility at the expense of the Senate, all of which has increased the pressure on this body to adopt the televised coverage of its proceedings. Herein lies the greatest effect of the televised proceedings of the U.S. House of Representatives.

The Senate is now close to adopting a resolution which would permit television coverage of its debates. It is in the nature of the resolution that the institutional effects of having television cameras in the legislative Chamber become most clear. The Byrd proposal makes some bold proposals for procedural rules

changes. [47] First, Senate would have electronic voting, as does the House, in order to save time and spare the viewer the boredom of the laborious and lengthy role calls. Secondly, floor sessions would be held on Monday, Tuesday and Thursday and Senate Committees would meet on Wednesdays and Fridays or whenever there would not be a floor session. This would assure the Senators' presence and also constrain the media to follow the Senate's agenda instead of setting its own. In effect, the Senators would determine where the television lights would be rather than the television lights determining where the Senators would be. A new rule on germaneness would be adopted to keep on the floor only amendments related to the Bill under consideration. Finally, there would be expedited votes on cloture and limited dilatory debate on the question of taking up an issue. In effect, although the Senate may adopt television coverage long after the Canadian Parliament and the House of Representatives, it seems clearly to have considered how best to fit the institution to the demands of the medium and vice-versa.

CONCLUSION

Although the televised coverage of the proceedings of the Canadian House of Commons and the U.S. House of Representatives took place at different times in different countries, there are, as we have seen, several factors which are similar to both situations. The reasons which led to the coverage emanated as much from major political events in these countries as from the ever-increasingly pervasive use of the television medium. Both institutions decided to assume full responsibility for the direction and production of the televised coverage and thus indicated clearly their misgivings about the manner in which the information media are performing their role in society. In essence, neither institution was willing to consider handing over to the "gatekeepers" of information the responsibility for the telecasts. Both institutions wanted to exercise clear and complete control over their respective agendas.

The coverage has had its effect on the politicians and on the institutions. In fact, in this latter respect, the most eloquent evidence is contained in the rules changes proposed by Senator Byrd in the U.S. Senate. Politicians, it appears, are better prepared than before and take more seriously their attendance in the Chamber now that the television cameras can report on their absence or presence. On the other hand, it seems as if the television cameras have reinforced the necessity for modern politicians to be "media-viable" if they are to succeed.

This image-related effect will reinforce, it seems, the proclivity of contemporary politicians to pay as much, if not more attention, to form rather than content.

The population in the two countries has become more accustomed with the procedure of government, although the portion of the population which follows the proceedings is far from being representative of the population at large.

But perhaps the most important effect is the accessibility which television has granted to the very process of government. No longer is it necessary to read in the newspapers or watch on the television news what has happened in Ottawa or Washington. It is now possible to access directly an important source of the political news coverage. It is now possible to observe in full and in context the remarks which make the news, which are the sources of headlines. And with a knowledge of the greater context, it is possible to perceive very differently the reported news on those occasions when we have not seen the debates. That we know and understand how things are said on the floor of Congress and in the House of Commons makes it possible for us to cast a more critical eye on the political information which the media bring to our attention. Indeed, the news reports can now act as a cue for us in helping decide whether or not we want to tune in to the debate of a given issue in the House of Commons or in the House of Representatives.

It remains to be seen, however, to what extent the television viewer in North America will prefer to follow a two hour debate rather than listen to a two and one half minute summary of that debate as presented on the evening news. That such an opportunity exists, however, can only augur well for a more responsible and accountable form of both government and news reporting.

NOTES

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31) Granat, pp. 246-249.

32) Clark, pp. 12-22.

33) Garay, p. 142.

34) Garay, pp. 138-140.

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41) Cooper, p. 24.

42) Minutes of the Proceedings of the Senate of Canada, May 14, 1985: "Public proceedings in the Senate or in any subcommittee thereof may be recorded or broadcast but only through the use of such audio feed facilities as may be installed for that purpose in the Senate, subject to such arrangements with the clerk of the Senate or his designate as may be necessary."

43) Garay, p. 137.

44) Clark, pp. 12-22.

45) Ibid.

46) Ibid.

47) Blakely, pp. 1877-1888.

LEARNINGS

Photograph by Simon Gauvin

CRITICAL TEACHING IN A BASIC COURSE ON THE STUDY OF MASS COMMUNICATION *

by William O. Gilsdorf

This article flows from my twenty-four years of teaching communication theory and practice. More specifically it is a result of the analysis and rethinking of one of our department's more basic courses: Mass Communication 360. Preparing this article has been a valuable exercise since it has forced me to think about my definition of critical teaching/learning, to make explicit some of my basic assumptions about this course, and it has pushed me to evaluate the course in terms of my expectations. This paper will essentially follow this train of thought, with an additional section describing in summary detail the activities and relevant assignments in the course. Thus, after defining critical teaching I intend to share basic assumptions, describe the course, and then critically assess it.

WHAT IS CRITICAL TEACHING?

The term "critical" has different meanings for most teachers and practitioners. I certainly have departed from the concept's original roots, as I understand them, in Marxist critique and economic theory. For one thing the focus is not structural. Because Mass Communication 360 is a basic course, I believe the focus is more appropriately on the development of personal meaning. Exploring and sharing diverse meanings may help expand both our concept and practice of critical teaching.

Critical teaching of communication is seated within a larger process of critical learning. As will become clearer when I discuss basic assumptions, I approach this discussion from the viewpoint of the teacher but I try constantly to envision the learner. Content, or the overt message of the course, is the necessary content and backdrop for the course, but my primary concern is with the practice or process of the course. Critical teaching, therefore, is foremost a process — a process that must be evidenced by my approach to content, by the methodology of the course, by my stance as a teacher, by my response to student encounters with me and the subject, and by the host of learning support practices that I must bring to the course.

At root for me is the belief that all communication is political. Since the media are the dominant carriers of the "dominant meaning," it is important that all of us become equipped to enter the struggle (internally and externally) to define and frame, to interpret reality.

Critical teaching is, thus, a process by which learners are encouraged to understand, question, test and explore the role, nature, use, practice and basic assumptions of cultural/

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political practice -- in the case of this course: media as primary cultural apparatuses. Hopefully, this process will become internalized by the learner so that it will be applied to after-course encounters with all cultural and political institutions. The resultant critical learning will hopefully become a basic process whereby student learners will first: understand how they are positioned by the media or other apparatuses; understand the historical practice of the media and their experience with it; and then, at specific times, become active agents, giving new meanings to their own lives and their own cultures. We must all critically learn to negotiate with those apparatuses that are producing and reproducing the common sense. This is the essence and the mission of critical teaching.

It seems to me, then, that we are at a crucial, important, and "critical" time to be demystifying the process of mass communication. The so-called shift to an information age or stage; the growth and widespread use of the electronic media, which in turn, has been absorbed by multi-nationals and corporate states; the escalated efforts of clashing and imperialistic ideologies across cultural boundaries; and the growing sophistication of media technocrats (many of them abetted by us academics), all indicate that it is past time for widespread critical learning about the media.

At this point it seems necessary to further expand my definition of critical teaching in communication by discussing how it applies to a basic course like Mass Communication. After setting down some basic assumptions, I will discuss the goals and activities of the course, which should operationalize my definition, grounding it in specific practice.

BASIC GOALS AND ASSUMPTIONS

The formally listed goals for the course as they appear in the syllabus are:

1) To develop an understanding of the nature of mass communication and the use of mass media.
2) To develop a sense of the social and psychological impact of mass media in interaction with society/ cultural and the individual.
3) To increase understanding of the role and significance of the media in your life.

Some ways of restating these goals, especially in terms of critical teaching, would be:

i) To have students become more literate, visually and aurally, with respect to the mass media.

ii) To equip the student with a critical stance that will help her or him resist being sucked through the television or film screen or through the printed page. This suggests that individuals be able to position themselves at least at the edge of the screen/page (if not some distance before it) to see the practice, context and assumptions that have formed what is on the screen or page.

iii) To encourage students to question, explore, and test the history of specific media practices: to gain a clearer sense of the ideology, journalistic or creative practices and values, organizational practices and values, cultural practices and values that govern the collection, selection, ordering dissemination, and dissection of media messages.

The achievement of these goals assumes that any critical teaching of the media must be grounded in a supportive process and knowledge about the teaching/learning process. This includes such assumptions as:

a) Students have differential learning styles and differential needs for the structuring of the learning environment and process so teachers need to be aware of this and flexibly design the learning environment to accommodate diversity.

b) There needs to be dialogue. Student learners require regular and systematic feedback. This suggests teacher availability and oral and written comments on work and ideas presented.

c) If we are interested, as teachers, in the internalization of the process of critical learning then no work is final. Students should be able to resubmit work as long as administrative constraints permit.

d) A variety of teaching formats and media needs to be used. Students have varying levels of attention and energy. Thus, there should be a range of methods and media used in the classroom. To some degree, the medium (teaching) is also the message (critical learning). So the environment and class period must be carefully designed.

e) Student learners must be encouraged to be critical of the specific classroom process itself. Teaching and education institutions are among society's most influential cultural apparatuses central to spreading, reproducing, and perpetuating the dominant consensus around the meaning of cultural practices.

For critical teaching to become critical learning, there must be some moment when the student learner crosses the threshold from outside/inside learning to inside/outside. That is, the student must at some point see and understand the role of the media, and the way in which she or he uses the media in her or his own life. To fail to make this "breakthrough" means that the importance of the media is always "out there" in the society or culture and never "in here" where individuals interpret, absorb, reject, or negotiate meaning. Not until I began to design activities that encouraged this process did I feel that I was successful as a "critical teacher." For me, critical learning is the most fundamental assumption governing critical teaching of basic courses, such as Mass Communication.

Finally, to become a critical learner is not become an armchair cynic -- one who feels that to criticize is sufficient to becoming a functional and active agent. A critical stance is a thoughtful and often structured approach that is an important first step in the political struggle over the nature of cultural practice. A critical stance, then, is not to be another activity leading to narcoticized dysfunction, akin to media consumption, but implies that a student become actively involved in the struggle for producing meaning.

COURSE ACTIVITIES AND ASSIGNMENTS

From the perspective of a teacher, I feel fortunate to be able to teach in once-a-week, three-hour blocks of time. This permits the integration of longer media examples and the development of a critical analysis of that example without the artificial postponement to a later date. Three hour classes do present challenges, however, to the design of class time and space.

Each class focuses on one general topic area. Outside readings are assigned that relate to that topic. A lecture or "lecturette" introduces new material, clarifies complicated material, provides connections between readings, activities and topics. Media materials are used to illustrate or clarify principles central to the day's topic or readings. Discussion is conducted in the larger group to especially flush out differing points of view (which is often difficult as most classes average forty-five students). This is followed by discussion in small groups (no larger than five people) for at least twenty minutes. (For me, the key to the effective use of small groups in the class is the assignment of concrete tasks with a clear end product e.g., "As a group, list the chief characteristics of media development in Canada," or, "You are the special cabinet committee reviewing the Kent Commission report. Reviewing each of the recommendations indicate which you will support and why."

Results are submitted to me by each group.) Written feedback is given to the entire class of the summary results of the previous week's deliberations in small groups. In the last five minutes of each class, a written response is made by each student learner. There is space for the listing of two or three things learned, a question or problem with the class, and space for a short written response from me. These are handed back to the student the following week.

It is not my intention to dwell on the topic areas for each of the sessions. These have varied over the years. At least three texts are used (Singer, Epstein, Rutherford) plus extra readings are distributed. Text choice has also changed but has always included: 1) a short history of the Canadian media, accompanied by a critique (importance since I have been using Rutherford's textbook which has serious critical shortcomings); 2) a collection of shorter readings that approach the media from differing perspectives; 3) a more detailed analysis that explores organizational or professional practices and values; and 4) until recently I included a text that had an integrated approach to media study, but have since discontinued it because of demands on student time and my feeling that a pre-packaged theory often precludes the development of the student's own critical perspective.

The process of the course includes the following components relevant to my concept of critical teaching: (a) modeling a critical stance through the presentation of alternative perspectives; (b) eliciting critical response from students; (c) exploring the role of the media in the specific life of each student learner; (d) making connections and links among the various activities and concepts of the class, and (e) assessing the class itself. I will now list the relevant activities under each of these headings, elaborating on the more significant or, perhaps, innovative.

A. Modeling a Critical Stance.

1) Presentation through readings and lectures of a variety of approaches to media analysis, including the Frankfurt School; the positivist effects approach; uses and gratifications; organizational, professional, journalistic and social production analysis.

2) When each of these stances is presented I include my own critique or that of others.

3) Presentation of examples of media self-critique (the most useful of these has been productions by the CBC, PBS, and a tape prepared by the Illinois Power Corporation in response to a segment of **60 Minutes**.)

4) Willingness to critique myself and my own views at various times in the class, but especially in the final wrap-up session.

B. Eliciting Critical Reactions from Student Learners.

1) Every second week students are expected to submit a short, written personal reaction to one or more of the readings. These are submitted for automatic credit regardless of the quality of the paper, providing it is received within one week of the deadline. In five years of treating this assignment in this way, only a handful of students have exploited the automatic credit principle. Instead, I see extensive improvement in quality.

2) As mentioned earlier, at the end of each class students submit a short response to that class. Besides the enormous advantage to me of almost immediate feedback, it provides a space for sifting through the information load for that day and a chance to identify problems or alternative interpretations. I also have the opportunity for limited feedback, weekly, to each of the students.

3) Three or four times per semester media examples are brought to class for analysis -- usually timed to give students the chance to apply a critical model that has been presented. Two have been particularly successful and are interesting to describe in a little more detail. The first is a critical analysis of dominant values projected by what many would call a "progressive" sitcom. Most recently it has been an episode of MASH; earlier it was episodes of Mary Tyler Moore. Students are first asked to complete a personal values assessment (usually the Rokeach inventory) and then are asked to view the program, noting values. In small groups, they are asked to list the dominant values, stating them in a simple sentence and noting what aspect of the program (character, dialogue, situation, setting, context, visualization or other) projected the value. This is generally used as a lead-in to a major assignment (Media Lifeline) to be discussed later. The second in-class analysis of particular interest is of a recent news show (usually the National) following a special set of questions that I've developed. Students are organized into small groups before the exercise, each group having a separate question for analysis, unless class size dictates otherwise. Results of the group analysis are presented both orally, the same day, and the following week in writing. This has consistently resulted in a provocative and critical session. The questions drawn from a variety of perspectives, but particularly the social production of news, are:

As much as possible, detach yourself from being Canadian and analyze the newscast with one of the following questions in mind. (Please analyze any or all aspects of the newscast, including context, setting, introductions, non-verbals, visualization, order, juxtaposition, etc.):

1. What are the priorities for Canadians? What is important to them?
2. Who are the key players or primary and secondary definers? Who are the actors and who are the acted upon?
3. What do you deduce are the values and political beliefs of Canadians?
4. Which of the news items seem to be based on spontaneous happenings and which seem to be planned media events? What are the clues to your conclusion?
5. How are items or portions of the newscast connected? What are the links? How is flow established?
6. What are the geographic origins for each of the stories? To what place of the world does it seem directed? What is the area of geographical concern?
7. What are the silences in this newscast? What is not talked about or omitted?

C. Exploring the Role of the Media in the Specific Lives of the Student Learner.

The two major course assignments are in this area. At the risk of repetition, I feel that these are the most significant course activities leading to critical learning and practice in a basic course such as this. Part of the success of these assignment is due to the larger critical content of the course. However, through a combination of these two assignments many students have been led to an awareness of the key role the media has played historically and currently in the production of their personal values and beliefs.

1. Media Log. Early in the first weeks of the course, students are asked to keep a detailed and systematic record of all contacts with the media for seven consecutive days. Each is asked to summarize total contact time and note a variety of things, particularly the uses made of each medium and its significance in his or her life.

2. Media Lifeline. Assigned approximately two-third into the course, students are asked to review their own history with each of the major media, noting first contacts and favorites (if possible) and especially

noting the most memorable. Often an unintended, but positive, effect of this assignment is the provocation of lengthy discussions with family and friends over personal media histories and their significance. After attempting to isolate personal values and beliefs (in the present or key stages of past), students are then asked to analyze early favorites and most memorable for the dominant values and beliefs that are projected. In their concluding essay for this assignment, students are encouraged to look for patterns, clusters and connections among the values and beliefs projected and between those of the media and their own lives. Two lesser activities that contribute to this exploration have been a topic session or two devoted to the analysis of a specific media event. In the past we have spent days on the October Crisis of 1970, the death of Elvis Presley, the Royal Wedding, the Quebec Referendum, the assassination of Anwar Sadat.

D. Making Connections and Links.

Since I believe that much of critical analysis happens in the connections one makes between concepts, concept and practice, values and practice, practices and production, etc., I try to stress this in a variety of assignments and activities, most of them already listed. In addition to the other, primarily written, reactions and assignments, I ask that each student do a five page synthesis paper. The paper is to capture the themes and/or concepts that are personally important to each student learner, to show their interrelationships, and to connect them to specific readings and activities of the course. A final attempt at connections is made in the last class session devoted to a "wrap up" of key learnings and evaluation.

E. Assessing the Class, Itself.

I believe, finally, that the prccess of critical teaching demands a critical assessment of the content and process of the medium of the course. This is not left solely to the end of the course, where there is a systematic evaluation requested. The end-of-class reactions are carefully screened by me, responded to in writing and a selection of them are read aloud in the following class. I try to ensure that questions and differing interpretations are included. As much as possible, students are encouraged to critique the class process. In fact, this may lead to student renegotiating the basic course contract or to the substitution of assignments.

OBSERVED RESULTS AND CRITICAL ASSESSMENT

This is a time intensive course -- both for the teacher and students. There are ways of reducing the teacher's time through the use of a reader for some of the assignments and peer evaluation for others. Yet, generally, I am so satisfied with the process of the course and find that my own critical faculties are challenged and honed, that I feel my time is justified.

In final course evaluations of the past five years students have rated the course very highly. The most controversial activities are the personalized assignments (largely, I think, due to their dissimilarity with assignments in most other courses). About seventy-five percent of the students feel that the lifeline is one of the most valuable assignments of any communication course. The other twenty-five percent feel it is too personal, should be combined with the log, are unable to do the research and analysis expected, or fail to see its value. Many of these students substitute more traditional projects.

Students also resist doing the end-of-class reactions but gradually grow to value them. Near the end of the course I usually suspend the activity because the final synthesis has more relevance. All of the students "get into" the media log assignment. The most frequently cited learning is the inability to "just watch" a program, or listen to the radio (mostly news) or read a newspaper. How long that learning lasts after the completion of the course has never been adequately tested.

As a basic course, though no longer the basic course in the Department, Mass Communication 360 has suffered from trying to be too much to too many. For a long while it was seen as a means of introducing students to **content** needed for other, upper level courses. Over the past few years I have come to see it as more important for students to be introduced to **processes** essential for upper level courses. In particular they need to start with critically assessing personal meanings and interpretations, their history and deviations, in relation to media.

As I assess the course in terms of critical teaching/learning, I realize that many of the materials and much of the central, organizing concept need to be rearticulated. Most revealing of all is the realization that in the development of this course there was not enough of the clarity of vision or definition that I hope permeates this paper. The course grew around a set of changing topics and activities all aimed in the direction of greater media awareness on the part of students. A definition and clear articulation of the process of critical learning and practice, as a goal for the course was never

stated, but implied. Despite this I feel that in many ways the goal has been achieved. However, it is evident to me that many of the descriptive handouts now need to be redirected to promote a more systematic critical practice. I invite readers to send suggestions.

There are a few pitfalls in the assumptions and approaches described and advocated in this article. One may result from a combination of responsiveness to student learning needs, flexibility in assignments, and allowing too much latitude in responses. As a consequence, students may not explore in their work alternatives outside the common sense interpretation and practice -- thus defeating the intentions of critical teaching. Secondly, critiquing all positions and setting an atmosphere for the acceptance of a variety of interpretations may have the result that both my own critical stance and that of the course will become increasingly fuzzy and/or obscured. The flip side of this can be equally harmful, it seems to me. That is the emergence of a "dominant" ideology, interpretation and practice in the class that absorbs or otherwise "disappears" alternatives. A final pitfall, could be a major one unless students are adequately prepared and challenged. Though critical learning for me, begins internally, it cannot stop there. The trap laid by the suggested personal assignments is one of wallowing in self-indulgent personal reflection.

In sum, I feel that the increased attention to critical teaching and learning in communication courses is essential. Departments here and in the United States that have a heavy component of practice with some "theory" often suggest that critical analysis is their intent. More often students look to that analysis for clues as to how to produce more effective programs and how to use the media to manipulate others more skillfully. Critical teaching needs to be thoughtfully articulated and applied. I have tried to suggest that there is the possibility and the necessity for beginning this process at the most basic of levels: the struggle for personal meaning which can lead to the struggle for cultural meaning and practice.

REMARKS ON COMMUNICATION MEDIA PEDAGOGY

by Miroslav Malik

Here are some of my ideas and observations regarding education in photography, film, radio and television, as well as for generalists in communication theory, analysis, research and programming.

Generally, four basic learning processes occur within such an educational field:

(1) Information acquisition, selection, retention
(2) Skill acquisition (mental and motoric skills alike)
(3) Decision-making process (perfection and specialization) learning
(4) Small (specialized) group dynamics and interaction learning

The first two areas lie exclusively within the formal school curriculum. The remaining areas are practiced by students in schools or within industrial enterprises (studios, in-house training programmes, etc.).

1. Information Acquisition, Selection, Retention

Students need to acquire two kinds of information during their course of study:

(A) Direct (Field) Information

(B) Indirect (Generalist) Information

A. Among "direct" information belong data, artworks, biographies, theories closely pertinent to the field of study (courses such as: Documentary Film, La Nouvelle Vague, History of Communication Media Carriers, etc.). The "pertinence" of such courses stems from the similarity of media, the similarity of creative or critical thinking and execution process, or the similarity of aesthetical information impact on audiences.

Here, the information acquisition bears common pedagogical modes, such as classroom lectures, discussions (seminars or screenings) viewing sessions. Less common but more intensive modes are sometimes applied: tutorials and individual viewing sessions, or programmed courses with audio-visual modules performed in a controlled environment such as a learning centre.

Due to the nature of informational modules (films, tapes, videotapes), the danger of fluent information cascades is always present, drawing the student's interest momentarily to the content of artworks instead of to the formal or critical phenomena. The presentation of excerpts or repeated performances

does not always solve such cases. Experience with individual viewing sessions in the learning centre shows a higher information retention than in group screenings. Generally, the student is capable of following the teacher's introduction/ comments for no longer than 1-3 minutes on a piece of film, particularly if he/she should simultaneously take some written or oral notes. Although the number of notes is not important, they do aid importantly to later retrievals from memory. From the 15 minute-long screened film, students usually make 9-12 notes during a classroom session, and 20-25 notes in a learning centre viewing session.

There is an interesting effect of the audio-visual learning mode or "skimming" of information by students. If during the school day, the lectures contain many films and/or videotapes, the student begins to "read", to follow the material more quickly, but with significantly less retention of information. If such a period lasts several days (as in intensive seminars), students in the end are capable of following twice as much material per lecture than at the beginning. Sometimes, the ability to narrow the scope of observation (to the formal properties of film or to the structure of plot, etc.) is enhanced.

In all cases, the student is faced with two major modes of learning:

(1) following the structure of the performed materials

(2) following the thinking process of the teacher, as it is performed before the class.

Skilled teachers know intuitively that they must intermix these two modes in short durations of a few minutes, otherwise students' attention will drop. A specific problem arises when the teacher's explanation collides with the natural flow of the artwork's content or tensions. Experience shows that the teacher's dominance over the performed material enhances information selection, but hinders the student's ability to construct concepts. Otherwise, the attractiveness of the material's content very often enhances information retention (content cues), but the information retention is low, unsystematic (due to the content's flow).

In response to this problem, learning could be divided into four phases:

(1) The student (if possible) individually views the course material before the professor comments or lectures upon it.

(2) The professor in the classroom comments on the material and theories, and rarely and/or occasionally, shows excerpts from the material.

(3) The student compiles an essay or written comment from his notes from the viewing sessions and lectures.

(4) The student has the option of discussing his/her conclusions from both sessions with the professor or an assistant.

This last approach works best if the student has the option of consulting the professor after each chapter of the course (no more than two lectures in a row). Consultations with the professor are short if the student prepares questions beforehand, and the professor has enough supporting materials at hand (reading lists, references, etc.).

It is very important that the student has privacy for the initial digestion of information. Then a certain small amount of time should elapse to clear the retained material to the preliminary concept stage. The professor's lecture serves as a critical evaluation of the student's experience, and subsequent written fixations of issues, problems, questions serve as the necessary synthesis.

B. Among "indirect" information belong vast quantities of data generally useful for the education of film-TV-radio makers of communication theory which we vaguely coin as enhancement of the "intellectual niveau". General data from history, arts, sociology, psychology, exact sciences are grouped under this area. Such courses are generally available within the university context, so on the surface there is no big problem for acquiring the necessary information.

Usually, however, courses of this nature are either too general or too narrow. Each department of the university maintains a certain cohesiveness of its discipline, either rejecting the "elective" students by a system of prerequisite courses or demanding study in only selected topics (group of topics) from the content of the discipline. Furthermore, the demand for a "generalist" approach is usually disregarded by the teachers of the discipline as "diletant".

Experience in the past leads to two solutions:

(1) The Communication Department establishes its own courses in "Psychology of Communication", "Sociology of Communication", "Anthropology of Communication", "Philosophy of Communication", and under such courses

selected topics from the discipline pertinent to the communication media are grouped.

(2) Special disciplines (political science, commerce, philosophy) establish courses within their own curriculum courses with emphasis on communication ("Physics of Light", "Applied Sound", "Management of "Media Enterprises").

The first solution duplicates teaching expertise and content within the university curriculum, but assures the pertinence of topics to communication students. It is a relatively costly proposition, but it works well with an ample student clientele. The second solution bears the danger of generality or the teacher's incompetence in particular media practices.

A good approach for this "indirect" information acquisition is an individual, programmed study course. It works best if it is organized not within the cohesive course, but as a complex study approach, dispersed over a period of 2-3 years.

(1) A student's "intellectual niveau" is assessed by a series of tests (if possible, during the entrance examinations and interviews).

(2) During the first year of study, the student should complete several self-instructional modules, pertinent to the lacunae of his/her case. (Equivalent of 3 credits).

(3) During the second year of study, several tests should be completed by the student, showing progress or deficiencies, then further modules would be assigned (equivalent of 3 credits).

(4) During the last year of study, the student should have the option of consulting individually with professors regarding his/her needs for readings or studies pertinent to the enhancement of the "intellectual niveau."

There is a special question, however, pertinent to information selection and retention. Usually, a student is required to complete certain written statements, essays, or tests at the end of the course as the basis for evaluation (marking). Yet there is a totally omitted fact that the level of knowledge gained from learning stabilizes within the course of 6-18 months after the learning has occurred. Therefore, what is measured by most tests or exams is the maximal learning gain, and what is omitted is the permanent learning gain. The latter one has eminent importance for practical life or professional success for students in the media industry.

When the student finishes the course, he/she stops most recall of the course content and structures. This recall is eminently important at the level of permanent learning gain. An occasional recall (say, once during the week) may increase the storage of permanent, long-term memory several times. Such recalls are important during the primary fixation period, which extends to 3-4 months after the initial learning process.

The sophisticated and insistent references of teachers to the content of previously learned material only partially solves such problems. We may say that more than 60-70% of information gain is lost in the post-course period.

The utilitarian solution to this problem can be found in courses dealing with perfection of skills - the information gained in previous courses serves as "content" for the student's practical skill exercises. There is also a danger in such an approach: limitation of themes for practical exercises may impose stylistic or semantic limitations, and is usually viewed by students as an obstruction to their creative freedom.

2. Skill Acquisition (Mental and Motor Skills)

Under the term "skill", I mean the mastering of a stereotype, either related to a piece of technical equipment (camera, tape recorder), human behavior (acting), or thinking (in scriptwriting or editing courses).

There are three basic types of skills:

(1) Operational skills (the student learns to operate a piece of technical equipment or to interact with it).

(2) Action skills (the student learns or copies modes of behavior of an actor/character or a member of a studio crew).

(3) Combinatory skills (the student learns to organize thoughts and ideas into some intricate plot, structure, or information cascade, in order to influence the audience).

The learning of operational skills is usually associated with the term "vocational learning". Yet it should be noted that there are several levels within operational skill mastering, and not all of these levels belong to the vocational/craft schooling.

For instance, a cameraman learns to operate a 16mm Arriflex camera. The learning of the technical procedure, maintenance rules, and procedures of loading/unloading the magazine surely belong to the vocation of the media. But when it comes to the filming, shooting and emphasis laid on the motoric aspect of framing, panning, tilting, dollying, then the motoric abilities of the student are of considerable importance, and physical stamina may contribute or deter from the necessary learning gain. It should be noted that only approximately 2-5% of students really possess excellent motoric coordination abilities for such learning tasks. Furthermore, there is the highly esoteric stage: "composing" the filmic image which constitutes not only "framing", but "thinking within the sequences of images". The camera and its operation serves as a necessary "expression mode", but the process itself goes on in the student's mind (courses such as "Visual Dynamics", "Video", etc.). Some teachers maintain the approach that the vocational level is really what can be "learned" in school, and all levels "above" the craft are a matter of "creative talent" of the student. In the past, most polytechnical institutes followed this model. In opposition are teachers who emphasize the "thinking" approach, and disregard the technical operational level of knowledge. These are labelled as "amateurs" or diletants from the professional's standpoint. Both approaches are in reality interwoven. Unless you attain a certain perfection of operation, the result cannot have a proper aesthetic information impact on the audience. But if only technical perfection is attained, the skill may be disregarded as a gimmick, special effect, or trick.

Within the practicality of the school's curriculum, there is a nearly insurmountable difficulty. The majority of motoric skills for the operation of equipment requires a large, but uniform, amount of time. The motoric skill is attained better if practiced without interruptions (which is impossible within the 50 minute lecture, where demonstrations consume at least 1/3 of the time).

Furthermore, if the practising is done by "trial and error", there are vast differences of time between "fast" and "slow" students. Experience shows that where the technical instruction can be modularized and the student can learn individually, the results are better than in group instructions, with subsequent individual trials. It is wrongly suspected that the student learns by "observation" of the demonstrated procedure, or by looking on as a fellow student performs the operational task. The student cannot keep more than 4-6 steps in the short-term memory for the performed operational task. After such segments, more than two trials are needed to fix such a process permanently. But even if the second trial is successful, the student needs a controlled recall (repetition of the operation mentally or in praxis) within the next 5-8 hours from the initial demonstration.

Some professional schools hold most of the demonstration sessions during the morning hours, enabling students to practice with equipment in late afternoon. In some Japanese schools, students are requested to carry "mind recalls" for the picture compositions or operational tasks the next morning after the lecture (Yagi: Image Design Course).

There is an interesting phenomenon of "close interaction" between a student and a piece of technical equipment. After the repeated use of the equipment (camera, mike, light), the student begins to "tune-in" to the range of possibilities of the tool. The student already remembers the "best framings", "compositions", "shots", "sounds", "tunes" - which resulted in the past in favourable, positive results. Such interaction helps to avoid most failures or disasters, so students grasp for such stages which involve emotional attainment of certain technical ranges of the tool. Usually, such stages are accompanied by very fast and effective operation of equipment. Although such a stage may be favored by the student's future initial employer (students are asked within the first few weeks of employment to show "their bag of tricks" to the rest of the crew or creative team), it contains a very dangerous "technical stereotyping". When the student begins to see the surrounding reality only through the lens of his beloved camera, or hear the sounds of nature through Gibson's parabolic mike, such experiences significantly distort the artist's sense of reality. Sometime ago, the whole approach was maintained in media schooling whereby the student's perception was apriori attuned to the technicalities of the tools. For example, the teaching approach known as "audiovideography" attuned the student's vision and hearing to the range of available lenses for cameras or audio recording equipment. Although on the surface, such schooling yielded fast and effective results in operational skills, it did not significantly enhance the creativity of the student. It may be important for the role of an audio-visual technician, but it may be distractive for a film or television cameraman, and not at all usable for an editor, director or producer.

The learning of action skills, however, can be accomplished generally by two basic methods:

(A) Experiential method (Stanislawski Acting School)

(B) Scenographic method (Svoboda-Craig-Appia approach)

In the experiential school, the student learns by a holistic approach to copy the desired role/character. This school is based heavily on an environmental approach whereby the actor/student is placed in a real environment for several weeks or months in order to learn all possible variants of behavior by

interaction with the surroundings. This method, therefore, excludes long and tiresome rehearsals and trials. Only very few schools, however, practice Stanislawski's approach exclusively. The usual solution is a compromise between the student's initial experience taken from the environment and organized rehearsals, thereby following the very close praxis of stage theatre.

The scenographic method relies heavily on space notation, some kind of systematic, condensed experience which is fixed in signs or diagrams for further rehearsals and trials. The student performs many fictional (in mind) rehearsals, in order to attain behavioral synonymity with the observed samples of characters. This approach is much more suitable and feasible in time and space than the environmental schooling. The pitfalls, however, of the scenographic approach may be a low level of student involvement, resulting in schematic and plain action in film or television étude.

The learning of combinatory skills is one of the toughest teaching tasks in media pedagogy. Such skills are pertinent to the education of directors or editors/switchers. In most cases, the technical competency occupies a relatively small amount of time and students master the technical process quickly. The difficulties lie in the mental level of skills, which are only rarely taught methodically.

In the distanct past, media schools believed that outstanding directors or editors would be able to transfer their mastership to the students (VGIK Soviet school employing Eisenstein, Pudovkin and Vertov; American Film Institute School involved Hitchcock, Riefenstahl). Although partially successful, only a few students were able to follow their masters. The drop-out level was heavy. Furthermore, several methodical approaches were developed (in Europe and the Americas), where directorial or editing skills were copied from outstanding film sequences, and given to the students for practicing, copying, and re-editing. As an off-shoot of such approaches, several anthologies of "master" styles or modes were compiled and screened to students. Yet generally, none of these systematic approaches worked well. This narrow selection of styles and authors with very few possible re-editing combinations did not enhance the student's creative approaches. In fact, creativity was often stifled.

So, most current schools skipped to the practicalities. Students directed or edited their own full film, television or radio show, in order to master the combinatory skills. Such "praxis" is a very costly proposition (although favored by students who got their "demo" with the financial assistance of

the school), and yields a very low educational gain. The situation is more clouded with the emergence of many "student film and video festivals", where artworks of differing standards and styles are judged by a jury of professional or semi-professional calibre. Serious professional schools set a "ladder" of exercises (from the very short "sequence" étude, to the "lights, camera, action" étude, to the "style" étude, and finally, the "diploma" film or TV show). Sometimes the student uses the material from several exercises in the final diploma work.

A very special case of education is in the area of scriptwriting. Here the combinatory skill is practiced on the tool of literature, but the results (film or television script) are very far from the novel or any other literary form. It is a scenographic notation of future artwork which may contain a very few verbal lines of spoken dialogue. The clarity of expressions toward the director and crew is more important than the general appeal to the readers/audience. Here, the combinatory skills of plot, character, conflict, tension or catharsis are multi-layered, (e.g. some parts of the plot may be contained by the actor, others in the visual composition of the countryside, others in accompanying music, others in intricate intercuts of situation, time and action). The formal and semantic calculations are the keys for the scriptwriters' education. Most of the courses in scriptwriting are taught as courses in "writing for media", when in fact, the scriptwriting business in the media industry is very far from the literary praxis. It may seem strange, but graphical or mathematical calculations can be extremely beneficial to the future film or television scriptwriter. Many large film and television networks employ 20-30 writers with specialized functions on one show, where the final assembly is a complicated, system-theory computer editing job.

Some professional schools employ the notion of "dramaturgy" (in the American context: "program development"), where education is aimed at the production of media-usable scripts. The dramaturgic approach is favored by European schools where similar praxis exists in the theatre business.

3. Decision-making Process Learning

Within the area of communication media education (film, radio, television and photography), there is a large area of "decision-making" processes and skills. But it is usually included in some organic or pragmatic context - only rarely taught as a separate discipline.

The decision-making process is basically branched programming (of thoughts, tasks, interactions, situations, actions) and belongs to the discipline of system theory. It can be practiced on verbal, visual, audio and situational (spatial) models, and most precisely, expressed in mathematical terms. Most schools "hail" this stage of education under courses with prefixes, such as "advanced", "special topics", or "creative", which basically teach the repetitive models of production routines. In many cases, there are not many models, but usually the one, practiced and believed in by the teacher. So the result must be a very narrow, artificial view of the actual production situation in business, resulting in the alienation of students from media practices.

Generally, it is very difficult to teach students the decision-making process through comparative examples. Even if the teacher has access to the models of production from different media companies, studios and networks, the actual materials usually cover the administrative side of the decision, leaving the most important mental process untapped. Also, many variables are perceived from the studio/network side but rarely revealed in academic study.

Another side-effect of comparative examples study is the one-sidedness of decision (usually looked upon from the supervisor's point of view rather that the employee's point of view). This often provokes adverse motivations in the young student adept in film/TV making. Probably the best alternative is a modeling teaching mode (with manual or computer access), where a full case study with all possible alternatives is revealed before a class of students, and the students can select the steps of decision-making in a programmed sense. The more advanced education in decision-making (some schools call such courses "media programming strategies") is the mathematical modeling of the variants in the production process.

If we take into consideration that in the media industry this process is mastered within the time span of 5-8 years (from the production assistant to executive producer), then it becomes apparent that such education cannot be accomplished within a one or two semester course. Contrary to this fact, nearly all schools in communication feature such courses, such as film and television production, practicum, advanced radio/film/television production studies, etc.

4. Small Group Dynamics and Interaction

Here, I refer to the mastering of "teamwork" usually within the context of a film, television or radio production unit. At a certain point in education, students are

grouped into small units, each member having a specialized function (camera work, directing, editing, etc.) for an outlined task (actual production of student's film or television show).

In some schools the students from the lower grades are used as helpers to the diploma students for their final productions; in other places students of the same year rotate the functions of the crew. Sometimes the students have free choice for grouping and role assignments; other schools prescribe the team assembly or the production routine.

In nearly all cases, the "hard learned experiences" are for the team and the final artwork is very costly. Learning by experience needs many repetitions with different variables, subsequent analysis and fixations of the best choices and routines. But when the production of a film or TV show is finished, it is usually already the end of the school year, and the "other half" of learning - the learning about teamwork - is quietly forgotten.

Such learning has a very low value, and may misguide the students. It is impossible for each student to try several approaches to the role he/she is assigned to. At best, the student may try major roles in the team once per year (under the assumption that the students have to produce a minimum of 5 shows, and at best, can hear only once the critique of peers or the professor. Another aspect is that competitiveness for marks very often contradicts the rules of teamwork, and further contradicts the final outcome of the produced artwork.

Finally, there is little resemblance between the mode of work students choose and the real situation in the media industry. At best, the teacher may set the rules or run the production from the industrial routine, but young people do not behave as their elder counterparts in the media industry.

There is a possible model for the accomplishment of this task, but we must accept the interlocking of several courses in a curriculum with the tandem of productions and seminars:

(1) The production of the piece is accomplished within the framework of the course, such as "Advanced Television Production", during the first term.

(2) In tandem, the same set of students take another course of a seminar nature ("Psychology of Communication", "Teamwork - in Media Production"), where theoretical models are discussed and applied from a previous course.

(3) In a subsequent term, the same students take seminar/critical courses with the emphasis on evaluation of media artwork.

(4) In tandem, the same set of students attend seminars with guest lecturers from the industry, where case studies can be discussed.

Another model (American Institute for Advanced Film Studies) uses professionals as tutors and evaluators of student productions in a phased sense; a student is not allowed to take another step in media production until the previous one is passed according to several of his tutors. This model, although very effective and beneficial to the individual students, is a lengthy one and, for the student, a boring procedure.

There is another sensitive issue in media pedagogy: the assessment, prediction and cultivation of "talent" and "creativity". At first, many teachers hail this educational side as a mysterious, inborn facility of the student, which appears miraculously when the artwork is made in or out of school. It is claimed that such ability is not possible to assess and cannot be taught in school. Teachers are afraid to predict or push such students via different, informal ways of education in order to cultivate his talent.

I believe that "talent" or "creativity" can be assessed, and within a certain range, can be predicted. It may be used as an unusual, non-pedagogic methodology:

(1) At first, students with an indication of "talent" should undergo thorough medial clinical testing, namely for perceptual, information processing and storage abilities (the neurophysiological department of larger hospitals can provide facilities and diagnosis). In most cases, a "creative" person shows abnormalities in one or more tests.

(2) Secondly, such a person should be assigned an academic counsellor with knowledge of developmental psychology (adolescent stage), and the same or another faculty member with a critical facility in media.

(3) A special dossier with information about his program (or difficulties) should be established for such students, so that all teachers are <u>aware</u> of talented persons in their classes.

(4) A "talented" student should be periodically checked for his/her mental or motoric abilities (at least each 3-4 weeks of study), and the results of such checks should lead to deletions or additions of certain portions of the courses. (Creative, talented people often have periods of great instability or hypertension when an overdose of teaching loads may kill the further development of talent; personal or emotional problems may significantly influence the same).

(5) A "talented" student should be allowed to do "special projects" regardless of the time schedule of the school. The most important phase in the nurturing of creativity is the "practicing" of stimulations and insights, which cannot be done on command or within the framework of lecture hours.

(6) A "talented" student should be exposed gently but steadily to the response of the audience to his/her artwork. Yet the audience does not mean another student, peers or same age group.

It often happens that the student is labelled as "promising" or "talented" when he enters the school, but the initial talent evaporates within a few months. There can be many reasons: an unresponsive environment, a rigid school structure, mismatched teams of people or thoughts. The "talented" student is a very precious person (we have at the most only 4-10% of the overall student population with such potential), and we should take care of them. But without early and solid assessment of these people, such abilities can easily be misjudged or go unnoticed.

Media Pedagogy is a more difficult field than the teaching of exact sciences, Liberal or Fine Arts. It is composed of straight information acquisition, highly individual motoric and mental skills, and manifold decisions inside the person and within the creative team. So it's no wonder why we face daily difficulties with our students, and why the media industry complains about the school educating future employees "outside the real world."

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Contributors to The Monograph

MARTIN ALLOR - PhD, Communication, Institute of Communication, University of Illinois; BA, Sociology, Oakland University; joined Concordia faculty in 1984 after teaching in the Department of Theatre and Communication at the University of new Hampshire. Dr. Allor, who has published articles on the discursive control of communication systems, teaches TV, cultural epistemology, media theory and philosophy of communication. He is currently the Director of the M.A. program in Media Studies at Concordia.

JAMES BABANIKOS - MA, Broadcasting and Film Production, University of Iowa, Diploma, Communication Studies Concordia University; BA, Mechanical Engineering, Concordia University. Mr. Babanikos has written and produced a variety of television productions and is very active with a major production company in Montreal. He currently teaches TV, sound, documentary film and scriptwriting at Concordia.

JOHN BUELL - PhD, Literature, Université de Montréal, MA, Literature, Université de Montréal, BA, Loyola of Montreal. Dr. Buell began teaching for Concordia in the English Department in the early fifties and joined the Communication Department at its inception in 1965. Besides producing numerous radio dramas, he is a fiction writer - most noted for The Shrewsdale Exit, Playground and The Pyx, which was later made into a feature. Apart from writing, Dr. Buell teaches media theory, media culture, and media and technology.

MAURICE CHARLAND - PhD, Communication, University of Iowa, MA, Mass Communication, Iowa State University; BA, Mathematics and Film/Communications, McGill University. Dr. Charland, who came to Concordia in 1980, specializes in communication theory and rhetoric and has a number of articles to his credit. He has also been instrumental in the development of the pending joint Ph.D. in Communication.

DENIS DINIACOPOULOS - BA, Université du Paris; BA, Communication Arts, Loyola of Montreal. After teaching at the Ecole d'Architecture at the Université de Montréal, Mr. Diniacopoulos joined the Communication faculty in 1970 where he teaches the dynamics of visual representation.

W. LAMBERT GARDINER - PhD, Social Psychology, Cornell University, BA, Psychology, Concordia University. Apart from teaching psychology of communication, media futures and telematics, Dr. Gardiner is Vice-President of GAMMA research institute and consults and widely publishes in both psychology and the future of technologies, his most significant work being Psychology: A Story of Search.

MARC GERVAIS - PhD, Aesthetics, Sorbonne; Licentiate, Theology, Toronto School of Theory; MFA, Drama, Catholic University of America; Licentiate, Philosophy, L'immaculée Conception; Honours BA, Classics/ English, Ignatius College; BA, General Arts, Loyola of Montreal. Dr. Gervais, a member of the CRTC since 1981 and a member of the Department since 1968, has extensively published and has contributed to numerous media commentary on film. A specialist in auteur cinema and humanistic critique, Dr. Gervais teaches film aesthetics and a variety of genre courses in film history and criticism.

WILLIAM O. GILSDORF - PhD, Speech Communication - Radio and TV, University of Michigan; MA Speech Communication and Theatre, Bowling Green State University; BA, Speech and Theatre/English, Baldwin Wallace College. After working as special assistant to Senator McIntyre and teaching for the University of New Hampshire, Dr. Gilsdorf joined the faculty at Concordia in 1973 and is now director of the program. His primary interests are mass communication, political communication and he has contributed to a number of publications and texts such as The Newspaper and Public Affairs, edited by Frederick Fletcher.

MARLA LOWENTHAL - MA, English Literature of Missouri; BA, English, Illinois State University. Ms. Lowenthal has taught English composition and literature since 1973, most recently teaching for the University of Maryland's European Division in West Germany, Italy, Greece, and Bahrain. Apart from teaching, she worked in advertising and was a freelance grant writer before joining Maryland's faculty in 1979. Ms. Lowenthal is currently pursuing a second MA in Media Studies at Concordia.

MIROSLAV F. MALIK - D.Sc., Film Studies, FAMU - University of the Arts, Prague, BA, Mt. Boleslav Academy; Dr. Malik, once Director of the Czechoslovak State Television Research Centre in Prague, has developed widely acclaimed international multimedia Expo exhibitions, and has written extensively in the area of biometric research. A frequent international guest lecturer, he is now director of Concordia's Meyer F. Pollack's biocybernetic research laboratory. Dr. Malik came to Concordia in 1967 and since then has designed and taught a variety of courses, such as communication analysis, history of media carriers, information design and communication programming.

NIKOS METALLINOS - PhD, Communication, University of Utah, MA, Broadcast Communication Arts, University of San Francisco; BA, Drama, University of San Francisco. Dr. Metallinos came to Concordia in 1980 after teaching at Temple University. He has taught and published extensively in television aesthetics and production, drama, broadcast education and Greek folk-history and dance, and is the Director of the University's summer program in Greece.

DENNIS MURPHY- PhD, Communication, University of California, MA in Television, San Franciso State and BA, Communication Arts, Loyola of Montreal. Dr. Murphy, who specializes in TV, media forecast and propaganda, joined Concordia's faculty in 1972. His recent research has focused on Barrington Nevitt, mysticism and information space, aesthetics of information and television and meaning.

BARRINGTON NEVITT - M.Eng., Telecommunications Engineering, McGill University; BA, Electricl Engineering, University of Toronto. Barrington Nevitt, who taught one of the first courses in the history and philosophy of science at Sir George Williams College in 1943, worked for RCA during World War II and while there aided in the development of the radio teletype system used to coordinate the allied invasion of Normandy. After the war, he spent the next thirteen years globe-trotting as a communications trouble-shooter for the L.M. Ericsson Telephone Company of Sweden until 1960 when he was hired as a consultant on Canada's communications satellite program. While working with the Ontario Development Cooperation

(1963-1974), Mr. Nevitt began collaborating with his good friend Marshall McLuhan at the University of Toronto's Center for Culture and Technology. And apart from co-authoring numerous publications with Marshall McLuhan, including Take Today: The Executive as Drop Out, Mr. Nevitt has written and lectured extensively on his own work.

JOHN E. O'BRIEN - PhD, Communication, University of Southern California; S.T.L., Theology, Regis College; S.T.B., Theology, St. Mary's of Halifax; BA, Arts and Science, University of Montreal. Dr. O'Brien, the founding chairman of Concordia's Department of Communications, taught in the department from 1964 until 1983 when he accepted a position as Director of Social Communications for JESCOM.
Dr. O'Brien has also worked on various communications projects, such as the Christian Pavillon at Expo 67 in Montreal and the Delphi Survey group's "Communications in the Health Field 1980-1990", and was a founding member for the Association de la recherche en communication du Québec. In addition, he has done extensive consultations in industry with such organizations as Bell Canada, Alcan, and the Association of Broadcasters and has published a number of works that include A History of the Canadian Radio League, 1930-1936.

DONAT TADDEO - PhD, Classics, Stanford University; MA, Media Management, University of Southern California, BA, Classics, Loyola University. Dr. Taddeo was a Dean of Concordia's Faculty of Arts and Science from 1980-1985, and now teaches propaganda and media management in the Department of Communications. In addition he has written and lectured extensively on multi-culturalism, particularly in regards to the Italian community and is heavily involved in education and politics. He was a commissioner on the Montreal Catholic School Commission between 1973 and 1980, a founding member of Positive Action Committee, and vice-president of the National Congress of Italian Canadians

PAUL THEBERGE - Honours BA, Music Composition, Dalhousie University; MA Fellow, Media Studies, Concordia University. Paul Theberge's compositions have been performed throughout Canada and the U.S. and he has received numerous grants and awards for his work. He has also taught several courses in the area of sound for Concordia.

GAIL VALASKAKIS - PhD, Communication, McGill University, MA, Dramatic Literature and Production, Cornell University, B.Sc. Literature/Speech/Drama, University of Wisconsin. Dr. Valaskakis has been with Concordia since 1969, chairing the Department from 1983-85 and is currently Vice-Dean for the Faculty of Arts and Science. She has extensively worked and published in cultural development and communications with a primary focus on the impact of media on native communities in northern Canada. At present, she is President of the Canadian Communications Association.